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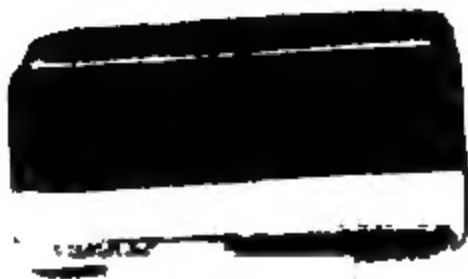
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EIGHTH BIENNIAL REPORT

OR THE

THIRTY-FIRST AND THIRTY-SECOND ANNUAL REPORTS

OF THE

Kansas.

State Board of Health

OF THE

STATE OF KANSAS

From June 30, 1914, to June 30, 1916.

KANSAS STATE PRINTING PLANT.

W. R. SMITH, State Printer.

TOPEKA. 1916.

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Index
Table
Contents
Secretary's Report
Public Health
1915

CONTENTS.

	<i>page</i>
PERSONNEL OF STATE BOARD OF HEALTH.....	4
LETTER OF TRANSMITTAL TO THE GOVERNOR.....	5
SECRETARY'S EIGHTH BIENNIAL REPORT.....	7
DIVISIONS OF THE WORK.....	7
1. Division of Communicable Diseases and Sanitation.....	7
2. Division of Water and Sewage.....	8
3. Division of Vital Statistics.....	9
4. Division of Food and Drugs.....	9
5. Division of Child Hygiene.....	9
6. Division of Public Health Education.....	10
APPROPRIATIONS.....	11

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LETTER OF TRANSMITTAL.

OFFICE OF SECRETARY, STATE BOARD OF HEALTH,
TOPEKA, KAN., Sept. 1, 1916.

To His Excellency, Arthur Capper, Governor:

SIR—In compliance with the laws of this state, I have the honor to herewith submit to you the eighth biennial report, or the thirty-first and thirty-second annual reports consolidated, of the Kansas State Board of Health, for the biennium June 30, 1914, to June 30, 1916. Very respectfully,

S. J. CRUMBINE, M. D., *Secretary.*

Eighth Biennial Report of the Kansas State Board of Health.

Of late years the work of the State Board of Health has grown in volume and in importance, so that it became necessary from a standpoint of administration and efficient management to classify or divide the work into various divisions. Accordingly, the following divisions of the work have been established, namely:

- (1) The Division of Communicable Diseases and Sanitation.
- (2) The Division of Water and Sewage.
- (3) The Division of Vital Statistics.
- (4) The Division of Food and Drugs.
- (5) The Division of Child Hygiene.
- (6) The Division of Public Health Education.

A discussion of the work of the Board will, therefore, be undertaken in accordance with the above classification of the divisions.

(1) DIVISION OF COMMUNICABLE DISEASES AND SANITATION.

Under this division is classified the direct work for the control of communicable diseases in the state and the correction of such insanitary conditions as the department has jurisdiction over.

To this division the county health officers of 105 counties and the city health officers of the ten cities of the first class in the state make direct reports of the work of their respective localities. Through this sanitary force the division largely works in its efforts toward the suppression and control of communicable diseases.

This division, in coöperation with the Division of Water and Sewage and the Division of Public Health Education, made a special effort during the past two years to reduce the incidence of typhoid fever in the state. This undertaking has been fruitful of results in that the average mortality from typhoid fever in the state, which for years had been in the neighborhood of 19 per hundred thousand population, was reduced for the fiscal years 1914 and 1915 to 11.6 per hundred thousand population. Or, expressed in actual number of deaths, the 345 for 1912, and 342 for 1913, and 339 for 1914, were reduced in 1915 to 195. This result was brought about, in part, we believe, by the intensive work of the State Board of Health through local and county sanitary surveys, a wide distribution of typhoid vaccine, greatly improved water supplies, and better disposal of human wastes through modern sewer systems.

In addition to this, a state-wide educational propaganda has been carried on by the Division of Public Health Education in the shape of posters and literature, illustrated lectures and moving pictures.

The extent of this work has been limited only by our lack of means for carrying it forward, and just to that extent we believe we have failed to further reduce the incidence of typhoid fever in the state, although the remarkable reduction that has taken place must be exceedingly gratifying to all concerned.

It is our belief that the greatest impediment to efficient public-health work in the various counties and municipalities of the state is the lack of all-time trained health officers. It is impossible for the state to assume sanitary control of local conditions throughout the state; from the very nature of things, if insanitary conditions exist in a community it is because of the failure of the local authorities to enforce the sanitary laws of the state through properly trained and adequately supported health officers. After many years' experience in public health work it is my deliberate opinion that the respective counties and municipalities of this state could make no better investment, as reckoned in dollars and cents through the prevention of preventable diseases and deaths, than by adopting the policy of employing full-time health officers. It is certainly unwise from an economic point of view, as it is futile from a public-health point of view, to simply be content to quarantine disease after it has occurred, rather than to put into motion ways and means looking toward the prevention of the occurrence of disease. Our present system of local public-health work is based upon the time-honored and obsolete policy of locking the barn door after the horse is stolen. The time should and must speedily come when local communities will regard the trained, all-time public-health officer as the most important municipal or county official in their employ.

For detailed report of the Division of Sanitation and Communicable Diseases the reader is referred to special numbers of the *Bulletin* under date of May, 1916.

(2) DIVISION OF WATER AND SEWAGE.

The working force of this division is composed of an engineer, two assistant engineers, the director of the water and sewage laboratories of the University of Kansas, together with his working force of nine persons, all working through and under the direction of the secretary of the Board.

The volume of the work of this division has enormously increased since our last biennial report, chiefly because of the additional legislation passed by the last legislature in which the water and sewage laboratories were directed to practically examine all the water supplied by municipalities or corporations to the public for domestic consumption, including the water served on railway trains and in railway stations, bottled waters and ice used for domestic purposes.

Extensive research and investigation have been carried on by this division in the sanitary survey of certain watersheds in the eastern and southeastern portions of the state, the treatment of industrial wastes, the operation of water-purification plants and sewage-treatment plants, which labor has covered, in one or the other of the above phases, the entire state.

For a detailed report of this division the reader is referred to the annual report of the engineer found on a subsequent page.

(3) DIVISION OF VITAL STATISTICS.

The work of the Division of Vital Statistics has been carried forward with the same energy and precision as in the past. In 1914 the Division of Vital Statistics was admitted into what is known as "the registration area of the United States" for death reports. Since that time the work of the division has been checked up by federal experts to determine the per cent of accuracy of death returns in the state, and it is exceedingly gratifying to be able to make the statement that a higher percentage of death returns is being reported and recorded in this state than in any other state that has thus far been checked up by the federal government, the rating given by the director of the census being 99.6 per cent efficiency.

This division, coöperating with the Division of Child Hygiene and the Division of Public Health Education, has made it possible for a vast amount of literature to be sent to the mothers, the births of whose children were reported to the division.

For detailed report of this division, including tables on vital statistics which are exceedingly interesting, the reader is referred to the special number of the *May Bulletin* containing the second biennial report of the Central Division of Vital Statistics and the Division of Communicable Diseases and Sanitation.

(4) DIVISION OF FOODS AND DRUGS.

The work of the Division of Foods and Drugs for the biennium is fully recorded in the detailed report of the assistant chief food and drug inspector, which is found on another page.

During the biennium two especial campaigns have been made—one known as the "milk campaign," in which samples of milk were secured from the dairymen in all cities of Kansas of a population of 8000 or over, a careful analyses made and prosecution brought where adulterations were found. The second campaign was known as the "bad egg campaign," beginning in June of the fiscal year just closing and continuing over into the fiscal year of 1916 and 1917.

Probably the most important work done by this division has been done concerning the improvement of sanitary conditions where foods were manufactured, stored or offered for sale. Quite an improvement has been noted in all such places. However, it is the belief of this department that the most important problem connected with safe food is yet to be solved: it is our view that actually safe food will never be positively assured until such time as the department has authority to require the physical examination of all persons handling food products.

(5) DIVISION OF CHILD HYGIENE.

A detailed report of the Division of Child Hygiene and recommendations made by the director may be found in the June, 1916, *Bulletin* of the State Board of Health, page 414, known as the "Child Hygiene number."

The work of this division has been greatly hampered by lack of suffi-

cient appropriation. Kansas is a state of great distances, and we find it difficult to get into close touch with the mothers of the forty thousand babies that are born in the state annually. The prevention of infant mortality means something more than a study of the causes of death or the distribution of literature; to be effective and efficient it means actual personal touch with the expectant mothers and the actual mothers of the state. This could be made possible only through a corps of public-health nurses.

When this division was created by the last legislature it was urged that an appropriation of \$15,000 be made for its maintenance, with the view of supplying these public health nurses, through whom personal touch could be made with at least a certain class of mothers who need aid and instruction. The minimum number would be one for each congressional district. It is, therefore, strongly urged that ways and means be supplied by which a corps of visiting nurses may be put in the field for the purpose of actual visitation to those mothers or expectant mothers who might indicate their desire for instruction and assistance, and who are financially unable to secure such service under present conditions.

This division wishes to gratefully acknowledge the coöperation of the women of the state for their aid in securing the Division of Child Hygiene and their cordial support in the work that has been inaugurated during the formative period of its service.

(6) DIVISION OF PUBLIC HEALTH EDUCATION.

State boards of health are beginning to understand that one of the most if not the most important department is that of public-health education. The prevention of disease is of infinitely more importance than the control of or the suppression of disease, and to this end more and more the energy and service of state health departments is directed. Thus it is that increasing importance is given to the wide distribution of literature relating to disease prevention, the installation of public health exhibits, the giving of public health addresses illustrated by the stereopticon or by the moving picture, and the personal conference with and advising of such individual citizens of the state as make inquiry as to means and methods for the prevention of disease, and the installation of sanitary arrangements on or about their premises.

The Division of Public Health Education has made an attempt to meet this ever-increasing demand through the ways and means above suggested. In addition to these measures, the division has annually conducted a school for the instruction of health officers, the school being held at the School of Medicine of the University of Kansas at Lawrence and Rosedale, with the assistance of the faculty of the School of Medicine and expert sanitarians from abroad.

This division has also, in coöperation with the Topeka Public Health Nursing Association, conducted a school of public health education, the course extending from October 1, 1915, to May 1, 1916, the primary purpose of which was for the education of public health nurses and for the instruction of such members of our working force and citizens of Kan-

sas as desired to take advantage of the same. Both of these schools are conducted without fee or expense to the citizens.

This division is also designed to fit a car with a public health exhibit that may be taken from town to town throughout the state, thus coming into personal touch with the people of the state, discussing their local personal and sanitary problems, and pointing out the way for their amelioration or correction. A generous appropriation from the legislature should be made for the conduct of this division's work.

APPROPRIATIONS.

The following appropriations are recommended to conduct the department during the coming biennium:

	1918.	1919.
Secretary	\$2,500	\$2,500
Three clerks and stenographers, at \$900 each	2,700	2,700
Sanitary fund for carrying out the provisions of chapter 382, Laws of 1907, for investigations and research work in stream pollution, sewage treatment, and water purification, and for other sanitary purposes	8,000	8,000
Miscellaneous and incidental expenses, including the expenses of the chief food and drug inspector to the annual conference of the Association of American Dairy, Food and Drug Officials, as authorized in section 12 of chapter 266, Laws of 1907, and the expenses of a representative of the State Board of Health to the annual conference of the State and Provincial Boards of Health, and the conference of the surgeon-general of the United States Public Health Service with the state health officers, as authorized by an act of Congress, July 1, 1902, and for other trips outside of the state upon the order of the governor	3,000	3,000
For the purpose of the free distribution of antitoxins, vaccines, serums and other prophylactic supplies	3,000	3,500
For research and investigation into the cause of disease, and for the suppression and control of communicable, industrial and occupational diseases	8,000	8,000
Assistant chief food and drug inspector	1,800	1,800
Five food and drug inspectors	7,500	7,500
Traveling expenses of inspectors	6,000	6,000
Purchase of samples and incidentals	500	500
Bacteriologist	1,200	1,200
Maintenance of laboratory	1,000	1,200
Division of child hygiene	15,000	15,000
Expenses, members of the State Board of Health, postage and incidentals	1,200	1,200
Emergency fund, the unexpended portion for 1918 appropriated for 1919	5,000	.....
Maintenance of exhibit car	2,000	2,000

The United States Public Health Service is authority for the statement that if state boards of health are expected to do efficient work, or to approach anywhere near the standards required of them as to character and quality of work performed, they should have at least *two per cent* of the total appropriations made by the state *for all purposes*. This estimate does not include appropriations for food and drug work.

The appropriation above suggested, not counting that for food and drug work, is scarcely in excess of one per cent of the total state appropriations.

The appropriation made by the last legislature for the free distribution of antitoxins, vaccines, serums, etc., for the year 1916 was entirely exhausted in March of that year. The department was confronted with the necessity of suspending the distribution of these important biological products, which are so essential for the control of epidemic diseases and the saving of human life. The governor was good enough to permit us to use his emergency fund for maintaining this division of our work

until the appropriation for the succeeding year was available. Accordingly, \$426.45 of the governor's fund was used for this purpose.

With the increased use of these important remedial agents, the appropriation recommended is well within the minimum which it is believed our necessities will demand.

The American Medical Association has recently completed a survey of the activities of the various state boards of health, which was made by Dr. Charles V. Chapin, of Providence, R. I. This careful survey has resulted in a comparison which is exceedingly gratifying to Kansas in a number of important respects. In one instance, as applied to appropriations, the statement is made that Kansas is receiving more and better work from her State Board of Health per capita of money expended than any other state in the Union. If there has been any doubt as to the wisdom of expenditures of the State Board of Health in the past, this survey made by the country's most noted expert ought to be a sufficient answer for any such doubt.

Within certain limitations, public health is purchasable. It is, therefore, within the power of the legislature of Kansas to fix within the limitations above referred to the sickness and the death rates from preventable diseases.

Respectfully submitted.

S. J. CRUMBINE, M. D., *Secretary.*

Report of the Secretary for the First and Second Quarters, December 18, 1914.

Mr. President and Members of the Board:

As stated on a former occasion, since the budget of the State Board of Health was so greatly reduced by the last legislature, we will be able to hold but two meetings of the Board this year. This report, therefore, will cover in part the work of the first and second quarters of this fiscal year.

The work of this department since the annual meeting in June has continued in much the same fashion as hitherto, excepting that, by reason of insufficient office force, our work is greatly hampered and oftentimes seriously delayed.

No epidemics of great proportion have swept the commonwealth during the period, but it should be noted that diphtheria has been, perhaps, more prevalent during the past three months than for several years previous. Since July 1 762 one thousand units, 405 three thousand units, and 673 five thousand units of diphtheria antitoxin have been sent out by this department to the various distributing points in the state, and it can not be gainsaid but what the free distribution of diphtheritic antitoxin by the state has again and again been a beneficent instrument in the saving of human life, as well as being an important factor in preventing the disease in epidemic form.

Typhoid fever has prevailed in the rural districts to about the same extent that it has in the past, and it is our belief that this disease will continue to exact its toll of human life and sickness, with their attendant

enormous economic loss to the people of this state, until adequate ways and means have been provided for a vigorous campaign against typhoid fever in this state, such as was conducted by this department several years ago against tuberculosis. The two most important elements which, in my judgment, are fundamental for effective typhoid control are those of the thorough and searching sanitary survey and of the all-time health officer. More will be said concerning this when we take up for discussion proposed legislation.

It would seem, however, with the enormous economic loss from typhoid fever, which makes the amount something over \$8000 daily, that it would be the part of wisdom, as well as economy, to provide the State Board of Health with sufficient means and measures in an attempt to reduce the annual morbidity and mortality under this preventable disease.

The most serious outbreak of typhoid fever that has occurred is now prevalent in Manhattan. Most of the cases occurred among the students and faculty of the State Agricultural College. Altogether twenty cases have been reported, with one death. A careful investigation has been made to determine the source of infection, and with the data available it would seem to indicate a certain milk supply was responsible for the epidemic. In the meantime pressure has been made upon the city authorities to improve the condition of their water supply, which has not been satisfactory for some time; and the assurance of the mayor and commissioners is to the effect that immediate steps will be taken for such improvement.

WEEKLY CONFERENCES.

Early in September the practice of weekly conferences of the chiefs of the various divisions was inaugurated, the conferences being held at times in Topeka and at other occasions in Lawrence. It is thought that better team work might obtain between the divisions, and a larger view and conception of the work of the department as a whole has resulted from these conferences. Among other things that have been accomplished has been the beginning of a permanent State Board of Health exhibit, in which each division is represented. Many requests have come for a display of the Board of Health exhibit at state fairs, chautauquas, congresses, etc., and we have been unable to meet these requests since our tuberculosis exhibit has been worn out and practically dismantled. The present exhibit will include all the various activities of the Board, and it is thought will be an educational instrument of great value.

NATIONAL CONFERENCE.

On June 19 and 20 your secretary attended the Annual Conference of Boards of Health with the Surgeon General of the United States Public Health Service, which was immediately followed by the Conference of the State and Provincial Boards of Health of North America. These meetings are becoming increasingly important and useful. The Public Health Service, which has grown in recent years to be so efficient and helpful, seems to show a real desire and purpose to be of service to the various boards of health in solving their special problems. The fol-

lowing resolutions were passed by the conference of the State and Provincial Boards of Health:

WHEREAS, It is the opinion of this conference that it is necessary for the proper control and supervision of milk supplies to establish grades and classes of milk: therefore, be it

Resolved, That this conference approves of the establishment of uniform milk standards and the classification of milk such as are embodied in the report of the commission on milk standards appointed by the New York milk committee and published in the United States Public Health Reports of August 22, 1913, and recommend that, in as far as practicable, said standards and classifications be adopted by all state, territorial, provincial and municipal health departments.

WHEREAS, the Conference of State and Provincial Boards of Health believes that the conservation of health is one of the most urgent questions now confronting the people of the United States; and

WHEREAS, An efficient force of qualified health officers is essential to a successful campaign against preventable disease: be it

Resolved, That special courses of instruction for health officers are recognized as a pressing necessity; and be it

Resolved, That the attention of the medical colleges approved by the Council on Medical Education of the American Medical Association be again directed to the need of courses in preventive medicine, public hygiene and sanitary administration, and that these approved medical colleges be urged to provide for such education of health officers.

Resolved, By the Conference of State and Provincial Boards of Health that health officials should be protected by legislation from the vicissitudes of party politics, and that they should be subject to some such standards of efficiency and such conditions of continuance and advancement in the public service as will induce high grade men to make a life work of the public-health service.

Resolved, That a committee of three be appointed, under the chairmanship of Dr. S. J. Crumbine, for the purpose of securing for the next conference a display or exhibit of whatever is new in the law, organization or practice of each state board of health.

Resolved, That each of the provinces and states holding membership in the conference be requested to make a sanitary survey of at least one county or district before the next annual meeting of the conference.

On July 13 to 18 the eighteenth annual convention of the Association of American Dairy, Food and Drug Officials was held in the city of Portland, Maine, which your secretary had the pleasure of attending and of which association he was honored by being elected as president for the ensuing year. Among other things, a committee was appointed to prepare a model bill to prohibit false advertising, which it was recommended should be introduced into the legislature in every state in the Union during this coming winter.

By resolution it was ordered also that a committee be appointed to investigate the entire egg problem, from the producer to the consumer, and accordingly it was my pleasure to appoint such a committee. The following resolutions were adopted by the conference:

Resolved, That this association vigorously condemns that existent practice involving the addition to food of a small or inappreciable amount of any substance, where such addition is obviously for the purpose of naming the substance upon the label, or otherwise to the effect of imparting a value which is fictitious; also those methods of treatment, demonstration

or representation generally which is misleading in effect or founded upon false principles. And in this connection we denounce the fraudulent water-glass test used with "albumenized" baking powder in comparison with other powders.

WHEREAS, The interstate shipment and sale in recent years of sweated or fraudulently colored immature oranges has become a menace to the public health, and

WHEREAS, There is no practical physical method by which to distinguish such immature oranges by color, texture, or other rhinal condition: be it

Resolved, That the joint standard committee be requested to investigate the chemical standard test now enforced by the state of Florida, with a view of adopting a simple, reliable and inexpensive test for the guidance of inspectors and consumers and to adopt a uniform standard for immature oranges.

WHEREAS, The wholesomeness of food products depends not only on the soundness of the product and the sanitary conditions under which they are produced, but also upon the freedom from communicable diseases of those who handle food: therefore, be it

Resolved, That it is the opinion of this association that the physical examination of all persons that handle food products is essentially necessary if the safety of such products can be absolutely assured.

Resolved, That this association earnestly favors the establishment of uniform regulations in the various states, and, where necessary, the enactment of additional and uniform statutes that will more effectively apply the principles and requirements of our food-control laws to hotels, restaurants, cafes and all public eating places, to the end that the use of all adulterated foods may be prohibited, and also that the service or sale of substitutes or imitation foods of all kinds whatsoever without notice to patrons or guests may be effectively prevented, and that the wholesomeness of foods and the health of the consumers be safeguarded by reasonable and effective sanitary and hygienic requirements.

WHEREAS, It is becoming increasingly evident that the national and state food and drug laws have failed and will continue to fail to afford the fullest protection possible to the consumers against false and fraudulent food and drug products; and,

WHEREAS, The Associated Advertising Clubs of United States and Canada and a number of state editorial associations have expressed a purpose to eliminate false and fraudulent advertising from the columns of their publications: therefore, be it

Resolved, That the Association of American Dairy, Food and Drug Officials, in their eighteenth annual convention, extend to the Associated Advertising Clubs of the United States and Canada and the various state editorial associations their cordial approval of any steps taken towards the elimination of all false and fraudulent advertisements, especially those calculated to deceive and mislead the sick and suffering public, and we commend in an especial manner those courageous publications that have already cleansed their columns of such objectionable advertisements; and be it further

Resolved, That it is the sense of the association that the membership of this association stand ready to extend to all publishers any information they may have through laboratory examinations of food and drugs, or by other methods, that may be requested of them as a guide for the acceptance or rejection of advertisements of food and drug products.

Resolved, That in the efforts to secure the full benefits of coöperation in the enforcement of food and drug laws this association indorses and urges that the state commissioners extend every possible assistance to any other commissioner in his efforts to enforce his law, either by the

furnishing of data secured in laboratory investigations or in any other way which will furnish him evidence in the trial of any case involving the enforcement of food and drug laws in any state.

Resolved, That the association look with disapproval upon hasty, unadvised and oftentimes retrogressive legislation concerning foods and drugs, introduced by interested parties and passed by legislatures without consultation and advice of the food officials of the states.

E. F. LADD,
J. B. NEWMAN,
CHAS. D. HOWARD,
S. J. CRUMBINE,
W. B. BARNEY,
Committee on Resolutions.

PUBLIC HEALTH LECTURE COURSE.

As announced in the October *Bulletin*, the Division of Education and Publicity has undertaken to foster a public-health lecture course, which I trust will meet with your approval. This approval, if given, carries with it your consent to appear before the public at such times as request may come in for that purpose.

SUGGESTED LEGISLATION.

I think it is agreed upon all hands by every sanitarian of note in the country that full efficiency of public health officers, with a maximum result in the enforcement of public health laws, whose ultimate aim is the reduction of morbidity and mortality, is only possible attainment through the service of the all-time health officer. The head may be ever so fertile in ideas, and ever so skillful in the propagation of reforms, yet if the hands and feet are crippled or paralyzed the effectiveness of the head availeth but little. And so it must of necessity be in state health work. The one glaring defect in this state, and in every other state in the Union, is a lack of the health officer who, with proper compensation and sufficient ways and means, may devote all his time and his energy to the solution of his local health problems. It was for the betterment of conditions herein stated that the Association of State Health Officers requested the governor to appoint a public health commission to examine into and to recommend changes for the betterment of our present local health organization; and for the same reason the Surgeon General of the United States Public Health Service was requested to send an expert to Kansas for the purpose of studying local conditions and recommending in what particular greater efficiency might be secured in public health work. Accordingly Dr. J. W. Kerr, Assistant Surgeon General, was detailed by the Surgeon General to make such investigation, and I herewith append as a part of this report a copy of Doctor Kerr's report to the Surgeon General, which is as follows:

DECEMBER 1, 1914.

The Surgeon General, U. S. Public Health Service, Washington, D. C.

SIR—In accordance with bureau instructions of November 3, 1914, a trip was made by me to Lawrence and Topeka, Kan., to make certain studies of health organization and administration in that state. While there conferences were had with representatives of the State Board of Health and with members of a commission appointed by the governor to consider public-health needs.

While the chief question for consideration during my detail was that of "full-time" health officers, opportunity was taken to observe also the organization and activities of the State Board of Health as represented by its executive offices at Topeka and its laboratories at Lawrence. As in other states, these agencies are the products of evolution, extending, however, over a period of barely thirty years.

It was only in 1885 that the first law was passed providing for a State Board of Health. The subsequent amendment of this law from time to time is evidence of the increasing interest of the public in sanitary matters, as the result of which not only has the organic act been strengthened, but additional public health legislation enacted.

The bulk of these laws have been previously analyzed by me and the results published in official bulletins. (Public Health Bulletins Nos. 37, 52, 54 and 62.) Full reference, therefore, is here omitted to their provisions, which are now fairly broad. Suffice it to say that the State Board of Health by them is clothed with broad administrative powers. Practically the Board does not exercise these powers directly, however, this duty being delegated to a secretary and executive officer of its appointing who acts in the interim of meetings, and who is also charged by law with certain definite powers. In fact, the State Board is in reality an advisory board to confirm during its quarterly sessions executive actions taken in the intervals by its agents and to act on *quasi-legislative* and judicial matters requiring their attention. In my judgment this actual status of board and executive officers should be recognized in law and the latter given legally the designation "state health officer" or "commissioner of health." Either title would be easier of use and more descriptive of the offices performed.

The work of the State Board is conducted by its secretary and his assistants through a central administrative office located in the capitol building at Topeka and laboratories located in the State University buildings at Lawrence and Manhattan, Kan.

This work is grouped in six divisions, viz.: vital statistics; communicable diseases, antitoxins; administrative and educational; water and sewage; food and drugs. In addition there is maintained a small bacteriologic laboratory. The laboratory work of the division of water and sewage and foods and drugs is largely carried on in laboratories at the University of Kansas at Lawrence, some laboratory work in foods being also done at Manhattan. All the rest of the work is conducted at Topeka.

The collection of vital statistics, *i. e.*, marriages, births and deaths, is carried on through a division recognized as such in law. The model law, recommended by the federal Bureau of the Census, and slightly modified to meet local conditions, is in operation. The effectiveness of its enforcement is evidenced by the fact that Kansas has recently applied to be included in "the registration area."

In order to secure the proper registration of marriages and to provide for the maintenance of the division of vital statistics, a unique provision was incorporated in a law approved March 10, 1913, requiring that all marriages within the state shall be registered with the state registrar of vital statistics, who is required to make a record of the same. For this purpose probate judges are required to report licenses issued and to levy an additional fee of fifty cents for each license. These fees, and those collected by the state registrar for issuing certified copies of marriage records, when turned over to the state treasurer, become available to pay salaries, necessary traveling, office and other expenses of the Division of Vital Statistics.

During the fiscal year ended June 30, 1914, the total of the above-mentioned fees collected amounted to \$8102, which was sufficient for the maintenance of the division. The adoption of this means of providing funds for the collection of data in respect to marriages, births, and deaths appears to have been an altogether wise action. The value of such data from public health and legal aspects can hardly be overemphasized. The

recording of marriages is peculiarly valuable to the contracting parties, since not only is this event then made a matter of official record in the state archives, but the subsequent birth of their children will also be made a matter of record, and the fee is imposed at a time and under circumstances which make its payment little felt. In the event that additional funds are needed to carry on this important work, a small increase in the amount of the fee would be in the interest of the public health and its payment undoubtedly little felt.

Through the division of communicable diseases, activities are carried on with the following objects: (a) to perfect local health organization and administration; (b) to secure better control of communicable diseases; (c) to make epidemiologic studies; (d) to disseminate information in respect to hygiene and sanitation. These are broad functions, and the available facilities of the division in the way of personnel for their enforcement, consists of one medical officer and about 90 per cent of the time of one clerk.

One of the functions referred to includes collection of sickness reports, and it is a notable fact that the Kansas State Board of Health adopted as a regulation, with some slight revision, the model state law for morbidity reports adopted by the eleventh annual conference of states and territorial health authorities with the United States Public Health Service, June 16, 1913.

It was, of course, the expectation that local health authorities would cooperate with the State Board of Health by reporting cases of the notifiable diseases, and there appears to have been reasonable success in having them do so, since every county had made some reports up to the time of my call.

In this, as in certain other innovations, the State Board of Health of Kansas has endeavored to lead, and has actually led all other states. It is remarkable the amount of work it has undertaken with its limited facilities, and the influence it exerts within the state.

Notwithstanding its broad field, there was evidence that the extent of usefulness of the Division of Communicable Diseases was limited, since the request from a distant county, received November 8, for an expert to go and confer regarding a smallpox outbreak brought out the fact that the total funds available for travel of the epidemiologist of this division from that date until June 30, 1915, was only about \$150, and examination of current laws and appropriation acts fails to show that any epidemic fund of the state is available to combat this disease, or even plague, should it gain access through river ports. It was evident also that in the past too much dependence had to be placed in the issue of regulations without full means to determine the extent of their enforcement. So far as I was able to ascertain no local health officer was able to devote his entire time to official duties, and such work must suffer in consequence.

In view of the marked prevention of sickness and death that can be effected by an active full-time officer, the services of such officers to look after local sanitary matters and to work with the state health officers is perhaps the most serious need in Kansas from a public-health standpoint. The experience of Yakima county, Washington, in the past four years emphasizes this need, that county, by the employment of a full-time health officer and bacteriologist and the observance of necessary regulations, having had its typhoid rate reduced by 90 per cent annually, and 100 lives saved in North Yakima, the county seat, alone in 1913, and the population of that county in 1910 was only 41,709. But it is hardly necessary here to invite attention to the value of intensive and continuous public-health work. It will form the basis of one of the recommendations to be presented later.

It is understood that the Antitoxin Division is devoted simply to the distribution of preventive and curative biologic products, the total amount expended annually for the purpose being \$1500. The division represents

a function, therefore, rather than a clearly defined organization, and this function is closely related to those of the division of Communicable Diseases.

The administrative and educational division of the work in reality devolves on the secretary of the Board, and is carried on from his office by means of bulletins, newspapers, lectures and exhibits.

The Division of Water and Sewage work is carried on almost wholly through appropriate laboratories at the University of Kansas. The sanitary engineer of the State Board is a member of the faculty of the engineering department of the University, and his assistants are also connected with that institution. A notable feature of the work of the water laboratory is the systematic examination of samples from municipal water supplies throughout the state.

While the administrative work in connection with enforcement of the food and drugs act is conducted in the office of the State Board of Health at Topeka, the laboratory work in connection therewith is done in appropriate laboratories at the State University at Lawrence and at Manhattan.

The relation of the State Board of Health and the State University, and the coöperation of the latter with the Board, appears to be eminently satisfactory under present circumstances. Not only are laboratory facilities thus provided, but scientific advisers are available. It is, of course, highly important, in the interest of the University at least, that its activities in this respect should be confined wholly to the furnishing of results of laboratory examinations and giving of expert advice, and not extending to executive matters. By means of weekly conferences of all the officers in charge of divisions, those at Lawrence going to Topeka for the purpose, a spirit of team work appears to be fostered in the carrying on of the Board of Health work.

The above brief outline is presented to show that Kansas has a rather well-planned health organization. While some parts of it are as yet undeveloped, *i. e.*, an adequate field force, and other parts only partially developed, the frame work is present on which to build. It should be developed, and on the basis that the primary function of a health organization is to suppress and prevent disease.

At the conference with members of the commission mentioned and the officers of the Board of Health the particular question under discussion was the need of an adequate field force that would really devote itself to improvement of public-health conditions throughout the state. As stated above, there is no greater need, and a number of ways suggest themselves: (1) dependence on county and municipal health officers; (2) divide the state into provisional districts and appoint district health officers to have charge of them, under the State Board of Health, and to coöperate with county and local authorities; (3) provide for districts of a single county or by two or more counties joining together, each district to be in charge of a full-time health officer, who shall have full authority of the state and county, be appointed by the counties, and be amenable to the State Board for efficiency.

The first plan is now in operation in Kansas, the law providing for a county board of health and health officer in each county, which, however, shall not supersede or in any way interfere with such boards established by municipal regulations. As if the county were not a small enough unit, this provision authorizes still smaller ones within its borders and makes them in effect independent of the county. For purposes of quarantine, also, the jurisdiction of these units (cities of the first, second and third class) extends five miles beyond their corporate limits, thus further limiting the jurisdiction of the county in health matters.

In view of the fact that infectious diseases disregard boundaries, and the impracticability of many counties maintaining an all-time health officer independent of the municipalities within their boundaries, it would seem wise to make provisions whereby these jurisdictions would pool their

interests. What is needed is all-time health officers, and enough citizens should be grouped in each health unit, be it one or more, to secure his services and the benefits to be derived from them. In North Carolina there are at least ten all-time county health officers at the present time, and their number is increasing. In Massachusetts, also, the well-known experiment of several towns (townships) combining to secure efficient health service has been successful.

The second plan above mentioned is now in operation in Massachusetts, Maryland, New York and Pennsylvania. Under its provisions the state is divided into districts, and a representative of the state board of health has charge of each district, the expense being borne by the state. He devotes all his time to his work, studies disease prevalence, makes reports to the state board, coöperates with local health authorities and endeavors to bring about uniformity among them.

The third plan is a modification of the second. It was suggested in a measure made the subject of discussion at the conference of the commission referred to above. A copy of this measure is inclosed. By the plan set forth therein the state would be divided into an appropriate number of sanitary districts, consisting of one or more counties. A district board of health would be formed and composed of representatives of the county or counties, and each municipality within their borders. Each board thus constituted would appoint a full-time health officer, whose qualifications would be determined by an examining board appointed by the chancellor of the State University. These district health officers would be prohibited from engaging in other than official business, and in consequence of rather rigid duties imposed on them would receive a minimum compensation of \$2000 per annum. The maximum salary fixed for like positions in Maryland is \$2500, and in Massachusetts \$3500.

The tenure of office of these district health officers would be dependent on the faithful and efficient performance of duty, and their jurisdiction would extend throughout their respective districts unless any incorporated city therein might elect to maintain a city board of health, in which case the district health officer would act in an advisory capacity in relation thereto. In other words, a sufficiently large health unit would be established to insure the full-time employment and retention of efficient health officers, and municipalities would be authorized to maintain a separate service if they so desired; but they would not so desire, as the practical operation of the several provisions would be to extend for health purposes the jurisdiction of municipalities to county lines to the benefit of all the people in the counties.

On the whole there appears to be much in this last-mentioned plan to commend, and the enactment of its provisions into law in Kansas would be a powerful means of improving public health conditions in both rural and urban sections of that state. It would provide an efficient field force throughout the state, which, while local, would be in position to coöperate and work with the state health authorities.

Independent of the size of health units within the state, and especially in the absence of an efficient mobile field force, there should be an epidemic fund available to combat dangerous contagious diseases. In a majority of the states such provision is made, the amount of the fund annually varying, for instance, from \$5000 in Colorado and certain other states to \$115,000 in New York. A list of these states has been embodied in Public Health Bulletin No. 62, p. 98, previously mentioned.

Formerly there was such a fund, in amount \$5000, available in Kansas, as shown by this list. It should be reappropriated in increased amount, in order that outbreaks of disease, such as smallpox, trachoma, and especially plague, may be combated on their appearance.

There is certainly need also of large funds to combat diseases such as typhoid fever, and to improve rural sanitation. As demonstrated by the recent work in Yakima county, Washington, Berkeley county, West Virginia, and elsewhere, the 350-odd deaths from typhoid fever, and more

than 3000 estimated cases of that disease in Kansas, could be largely prevented were adequate facilities provided. In the immediate future greater effort should be directed to check this economic waste.

As a result of the conferences held and observations made the following conclusions were reached:

1. From a public-health standpoint the greatest need of the state of Kansas at the present time is an efficient field organization composed of full-time health experts, who, on behalf of local communities, shall have jurisdiction over local health matters and coöperate with the state health authorities.

2. For public health purposes, units of health administration should be sufficiently large to justify and insure the employment of full-time health officers, regardless of whether such units comprise one or several political divisions.

3. Not only should full-time health officers be provided, but their activities should be directed especially towards the prevention of the most important diseases and the improvement of local sanitation, and adequate funds should be available to carry on these activities.

4. In view of the continued prevalence within the state of smallpox, and threatened prevalence of plague, an epidemic fund should be made available for use of the state health authorities to combat these and other dangerous communicable diseases.

5. In order that the state health authorities may respond to requests for investigations of outbreaks of disease, appropriations should be sufficiently large to defray necessary traveling expenses, and they should also permit of the employment of such additional persons as may be required to render this special sanitary service and to aid in combating disease prevalence.

Respectfully,

JOHN W. KERR, *Assistant Surgeon General.*

I have reasons for believing that the governor's commission will recommend the enactment of legislation providing for the district health officer, as above recommended, which I trust will meet with your approval and endorsement.

Your special attention is invited to the desirability of the State Board of Health inaugurating a special campaign during the next two years against typhoid fever, and to that end our appropriations for the Division of Water and Sewage, and the Division of Sanitation, Investigation and Research should be largely increased. If this program meets with your approbation we would be glad to have you so express the same in the shape of a resolution, and for each of you individually to see your respective senator and representatives of your own district, requesting his support in these matters

Respectfully submitted.

S. J. CRUMBINE, M. D., *Secretary.*

Minutes of the First and Second Quarterly Meetings (Consolidated) of the Kansas State Board of Health, 1914.

Held in the office of the secretary, in the statehouse, Topeka, Kan., December 18, 1914.

The first and second quarterly meetings (consolidated) of the State Board of Health was held in the office of the secretary, in the statehouse, Topeka, December 18, 1914, the president, Dr. J. S. Cummings, presiding. Upon rollcall, six members, a quorum, were present: Doctors Cummings, Lerrigo, Orr, Eddy and Hunt, and Mr. Allen, the attorney. Absent: Doctors Winterbotham, Rich, Lutz and Alexander. All the members of the advisory board were present excepting Professor Blackmar. Conferee, Mr. J. F. Tilford.

The minutes of the annual meeting were read and approved, and upon motion the report was received and ordered placed on file.

Doctor Van Cleve, representing the Bureau of Indian Affairs, and who was at the time engaged in making an investigation of the prevalence of trachoma in the Pottawatomie reservations, was called upon to make a statement to the Board concerning the work in which he was engaged and the prevalence of trachoma in the Indian schools and the adjacent mixed schools in which both white and Indian children were in attendance.

Dr. R. S. Magee, who has been with Dr. Van Cleve in making a portion of these investigations, then read his report on the prevalence of trachoma in the schools visited, which is as follows:

REPORT OF VISIT TO POTTAWATOMIE AGENCY.

1. In company with Dr. W. E. Van Cleave, the United States government special physician, and Mr. Snyder the United States superintendent of the Pottawatomie Indian agency, located at Mayetta, Kan., I visited six of the schools in and on the edge of the Pottawatomie reservation, December 15, 1914, traveling a distance of fifty miles in the one day.

2. The reservation is eleven miles square and is settled quite thickly with Indians, half-breeds and whites. The schools contain white children as well as the Indians and mixed.

3. Six schools were visited, there being 154 children in attendance that day, and I think, with one or two exceptions, the children were all there, although it was a cold, stormy, disagreeable day.

4. We made the trip in a two-seated Ford car owned by an Indian who is a special policeman on the reservation. The car was driven by his son, who I think is a graduate of Haskell—a very bright, intelligent Indian, who speaks the English tongue distinctly.

5. The teachers in the schools were all young women, with one exception. One school was being taught (?) by a young man. The county superintendent of Jackson county should very speedily make a trip to this school, make a survey of the surroundings, and act in her official capacity.

6. The children acted most beautifully. They could scarcely wait, almost trampling over one another to make their way to the front of the room to take the chair to submit to the examination, and without a whimper had their eyes examined, and enjoyed it.

7. The success of the day and the ease with which the examinations were made is due wholly and entirely to the introductory speech made to each school as soon as we went in, by Dr. W. E. Van Cleave, whom we elected spokesman, and the results of the day justified the wisdom of our choice.

8. The superintendent of the agency, Mr. W. J. Snyder, had sent a letter to each of the schools a few days before, telling them of our coming, and to be ready, and also urging as full attendance as possible.

9. In all, 105 white and 49 Indian children were examined. In the white children we found 33 well-marked cases of trachoma, and 31 cases among the Indians, making a percentage of 31.4 per cent for the whites and 63.3 per cent for the Indians.

10. The trachoma cases ranged from a few papilla on both the upper and lower eyelids to the fully covered lid with large follicles, and in some the cicatricial changes, smooth, shiny, slick conjunctiva. In some were seen the excoriations at the inner and external canthi, showing the presence of the secretions.

11. Attention was thoroughly called to the evil consequences of one wash basin, which was present in all of the buildings. The teachers all told us that they were especially careful as to individual towels and drinking cups, but all were allowed the special privilege of using the common wash basin and piece of soap.

12. The suggestion also was made as to the evil effects of the double seats and that where possible single seats should be used. This plan was partially in use in some of the schools.

13. In two of the schools the windows were down from the top, admitting ventilation. In only one did we find a thermometer.

14. Outside toilets are in use, and in one especially the seat was covered with ice and snow, and in every way filthy and uninviting, discouraging the regularity of the calls of nature. These toilets are all to be replaced by cement vaults, under the direction of the government, in the near future.

15. We visited six schools, two of which are just off the reservation, but containing Indian children. There are two more schools still to be visited on the reservation.

16. In the examination seventeen cases of conjunctivitis were found, twelve in the white and five in the Indian children, some of which were suspected of being trachoma, and may all later so develop, and should be treated early.

17. We also found a number of eyes badly in need of refraction, with some squint. A number complained of headache and difficulty in studying. All these should be most thoroughly tested out under a mydriatic and fitted with glasses where necessary. This was especially and forcibly urged in several cases.

18. To all of these schools charts should be given, and this applies to all schools in the state. Teachers should be given sufficient instruction to enable them to make tests and find defects; and when found, they should advise the parents of such defects and instruct them what to do.

19. The agency's special physician, Dr. Van Cleave, will make the rounds of these schools again in a few days and take medicines with him and treat those eyes, and where in his judgment it may seem advisable, leave the medicines and show the teacher how to apply them, with instructions for the treatment to be followed out. He will make no distinction as to race, giving all treatment alike, as they are mixed schools and receive government appropriation.

20. The teachers were exceedingly courteous to us in every respect, offering to do anything for us, and assisting us in every way in making the examinations, securing of names, ages and relationships and giving information as to home surroundings. They seem grateful for the interest, and will, I feel sure, pave the way for further work.

21. This inspection of schools on the reservation is the beginning, on the part of the government, of the eradication of trachoma. It will be a great day when all the schools, state and government, put such investigations in practice. It will insure the stamping out of this disease as well as some other diseases common to children. Let us be as vigilant in our schools in excluding disease as we are at Ellis Island in excluding diseased foreigners.

The report of the secretary was then taken up for discussion, and upon motion the secretary's recommendations were unanimously adopted, which included the indorsement of proposed legislation providing for districting the state into sanitary districts to be presided over by an all-time health officer; for the creation of the Division of Child Hygiene; for increased appropriations in order to inaugurate a two years' antityphoid campaign; amendments to the food and drug act to make it conform with the amended national food and drug act, and for the enactment of our present morbidity regulations into law.

The report of the engineer was then read, and upon motion adopted. Upon motion, the attorney and engineer for the Board were requested to draw up an order, under the authority conferred by the water and sewage law, to require the city of Chanute to treat its sewage before being discharged into the Neosho river, and to request certain actions to be taken by the cities of Topeka and Emporia. This order and resolutions were prepared, and upon motion were unanimously adopted. They are as follows:

WHEREAS, The city of Chanute discharges crude and untreated sewage from its sewerage system into the Neosho river, under a permit granted by the State Board of Health dated August 2, 1913, and

• WHEREAS, The presence of said sewage in the river causes certain pollution of the waters of said river, prejudicial to the health of the citizens living in the vicinity thereof:

It is Therefore Ordered by the State Board of Health, That the said city of Chanute have prepared plans and specifications, to be approved by said Board, and to construct, in accordance with the same, a sewage-treatment plant capable of producing a nonputrescible effluent for the treatment of said sewage; and further, to carry the effluent of such plant to a point along the river below the pool from which the city water is now taken; said plant and improvements to be in operation on or before January 1, 1916.

WHEREAS, There is in the limits of the city of Topeka a densely populated district containing about 7000 residents, located east of Washington street, which is not provided with any sewer system; and,

WHEREAS, Public health demands an adequate and efficient sewer system for this district:

Be It Therefore Resolved by the State Board of Health, That the city commissioners of said city of Topeka be and they are hereby requested to immediately prepare the necessary plans and profiles to be approved by the said State Board of Health, and proceed to the construction of an adequate system of sewers for that part of said city, in accordance with the same.

WHEREAS, The present water supply of the city of Emporia is impure, prejudicial to public health; and,

WHEREAS, The said supply now available is insufficient and inadequate during times of drought for the needs of the said city of Emporia:

Therefore, be it Resolved by the State Board of Health, That the city commissioners of said city be and they are hereby requested to prepare plans and specifications to be approved by said Board, and to construct, in accordance with the same, such additions and extensions as may insure a wholly adequate supply for the said city, a water-treating plant capable of producing pure and wholesome water for the use of the people of the said city and the public, and to have the same completed at the earliest time practicable.

The secretary was instructed to transmit the above order and resolutions to the city officials interested.

The report of the Standards Committee was then made, and upon motion the following standards were unanimously adopted and ordered to be printed in the official state paper:

REGULATION 35.

I. ANIMAL PRODUCTS.

A. MEATS.

b. **MANUFACTURED MEATS:** Paragraph 8 was revised to read as follows:

"*Mince, Mince Meat, Condensed Mince Meat*, is a mixture of several or all of the following ingredients: Cooked comminuted meat, chopped suet, apples and other fruit, salt, spices, sugar, syrup, glucose, first molasses, vinegar, spirituous liquors, and either fresh, concentrated, or fermented fruit juices. The names of all of the constituents must be stated upon the label."

B. MILK AND ITS PRODUCTS.

a. **MILKS:** Paragraph 6 was amended to read as follows:

"*Condensed Milk, Evaporated Milk, Concentrated Milk*, is the product resulting from the evaporation of a considerable portion of the water from whole, fresh, clean, lacteal secretions, obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and ten days after calving, and contains not less than twenty-five and five-tenths (25.5) per cent of total solids and not less than seven and eight-tenths (7.8) per cent of milk fat."

II. VEGETABLE PRODUCTS.

B. FRUITS AND VEGETABLES.

a. **FRUIT AND FRUIT PRODUCTS:** Paragraphs 10, 11 and 13 were amended to read as follows:

10. "*Fruit Butter* is the sound product made from fruit juice and clean, sound, properly matured fruit or fruits, evaporated to a semisolid mass of homogenous consistence, with the addition of sugar, spices or vinegar, and conforms in name to the fruit or fruits used in its preparation."

11. "*Glucose Fruit Butter* is fruit butter in which a glucose product is used wholly or in part in place of sugar (sucrose)."

13. "*Glucose Jelly* is jelly in which a glucose product is used wholly or in part in place of sugar (sucrose)."

Paragraph 8 was amended to read as follows:

3. "*Evaporated Apples* are the evaporated fruit made from peeled and cored apples, and contain not more than twenty-five (25) per cent of moisture by the usual method of drying for four hours at the temperature of boiling water."

A new paragraph is added to this same section, to be known as paragraph 13, which reads as follows:

15. "*Oranges* are considered to be immature if the juice does not contain soluble solids equal to, or in excess of, eight (8) parts to every part of acid contained in the juice, the acidity of the juice to be calculated as citric acid without water of crystallization."

Mr. Deacon then made a verbal report concerning the Division of Vital Statistics.

Mr. Congdon followed with a report for the Division of Food and Drugs.

Doctor Greenfield made an oral report for the bacteriological laboratory, and Doctor Sippy made an oral report for the Division of Sanitation and Communicable Diseases, which, upon motion, were all accepted.

No other business appearing, upon motion, the Board adjourned.

The following bills were audited and allowed:

Dr. Jessie T. Orr	\$12.68
Walter D. Hunt, M. D.	8.48
Mr. Otis Allen	5.00
C. H. Lerrigo, M. D.	7.88
V. C. Eddy, M. D.	28.87
E. H. S. Bailey	4.28
L. E. Sayre	5.03
J. S. Cummings, M. D.	17.55
J. T. Willard	5.98

S. J. CRUMBINE, M. D., *Secretary.*

Secretary's Report at the Annual Meeting of the Kansas State Board of Health, 1915.

Held in the offices of the secretary, in the statehouse, at Topeka, Kan., Tuesday, June 8, 1915.

To the President and Members of the State Board of Health, Greeting:

Since the last meeting of the State Board of Health, held December 18, 1914, the personnel of the Board has been considerably changed. Four members of the Board have been returned to their stations, which is a high compliment to the worth and fitness of these members and a gratifying recognition of the fact that training in service means more intelligent and more efficient work in the performance of appointed duties. Your secretary is particularly gratified to see these old faces returned, and he also cordially welcomes the new members to a part in what we believe to be the most important work of the state service. We venture also to express the hope that the same cordial spirit of coöperation will be maintained among the members of the Board and their working staff that has always characterized the work of this department.

EPIDEMIC DISEASES.

The state has been fortunate in that no serious epidemic prevailed in Kansas during the year that has passed. A careless reading of the cases of sickness reported in the *Bulletin* would seem to indicate that disease has been more prevalent than formerly, but I beg to assure you that this increase is only apparent and not real, being due entirely to the better reports received from physicians through the local health officers, working under our new morbidity regulations that have been effective since January, 1914.

On December 20, 1914, the following letter was received from the surgeon in temporary charge of the plague eradication work of the United States Public Health Service at New Orleans, La.:

NEW ORLEANS, LA., December 17, 1914.

Health Officer, Topeka, Kan.:

SIR—Some of the railroads leaving this city for extrastate points are forwarding cars without inspection by this service, and therefore without certification as to their freedom from rats. All cars which have been inspected and passed are sealed with a lead seal bearing the corps device of the United States Public Health Service, and a placard is pasted on the car, giving its number, date of inspection and the signature of the inspector. It is recommended that it be required that cars entering your state from New Orleans show evidence of inspection and certificate as described above.

Respectfully,

G. M. CORPUT, *Surgeon in Temporary Charge.*

I immediately telegraphed to the Surgeon General as to what steps Kansas should take, if any, to assist the authorities in their fight to eradicate the plague, and at the same time to safeguard the people of this state, whereupon on December 22, I received the following telegram from Acting Surgeon General Glennan:

WASHINGTON, D. C., December 21, 1915.

Dr. S. J. Crumbine, Secretary State Board of Health, Topeka, Kan.:

Thirty human cases of plague and 209 rodent cases of plague at New Orleans to date. No infected rats taken from freight cars, but infected rodents have been found in freight yards. In order to anticipate any possible spread of the disease from New Orleans we are maintaining thorough outgoing quarantine at considerable expense. All cars bearing Service seal and label have been inspected. Cooperation of the health officers of the various states is necessary to render the plan effective.

GLENNAN, Acting.

The same date letters were sent to the general managers of all the railroads doing business in this state, a copy of which is herewith submitted:

December 21, 1914.

Mr. C. W. Kouns, General Manager, A. T. & S. F. Ry., Topeka, Kan.:

DEAR SIR—I am herewith enclosing copy of telegram from the Surgeon General, United States Public Health Service, concerning the bubonic plague situation in New Orleans; also copy of letter received from the surgeon in charge of plague eradication, all of which are self-explanatory.

It should be borne in mind that rats may be transported in freight cars containing food, as well as upon boats or steamers, and it is our belief, therefore, that the request of the United States Public Health Service should be complied with.

Will your company put into immediate effect an order that all cars of freight originating in New Orleans for Kansas points be received by your company only on the condition that they are properly inspected before leaving New Orleans, and bear the seal and stamp of inspection of the United States Public Health Service.

May we have your early acknowledgment of receipt of this letter and be advised of your action.

Very truly,

S. J. CRUMBINE, M. D., *Secretary.*

Replies were eventually received from all the railroad companies that our request would be complied with, and accordingly all shipments of freight originating in New Orleans bound for Kansas points have from the above date and until recently been inspected by Public Health Service men and the cars sealed with the seal of inspection. Under date of May 11 a letter and telegram from the Acting Surgeon General indicated that the conditions at New Orleans made it no longer necessary to continue the inspection, whereupon the following letter was sent to all the railroad companies in Kansas that the embargo on shipments originating at New Orleans had been released:

MAY 12, 1915.

DEAR SIR—I am in receipt of a telegram from the Acting Surgeon General to-day, that, owing to improved conditions in New Orleans, overland freight inspection is discontinued.

Therefore, this department requests that you release all connecting lines to New Orleans points requiring a United States Health Service tag on cars originating in New Orleans designed for Kansas points.

Very truly yours,

S. J. CRUMBINE, M. D., *Secretary.*

DIVISION OF COMMUNICABLE DISEASES.

The detailed work of the Division of Communicable Diseases and Sanitation will be given by our epidemiologist, Dr. John J. Sippy, in his annual report.

On May 14 your secretary attended the annual meeting of the Surgeon General with the secretaries of the state boards of health, and on the following day he attended the annual Conference of the State and Provincial Boards of Health of North America.

The following resolutions were adopted:

WHEREAS, Rule 3 of the rules governing the transportation of the dead, adopted at St. Paul in 1913 by this conference, which reads as follows:

RULE 3. The transportation of the bodies dead of any diseases other than those mentioned in rule 2 shall be permitted under the following conditions:

(a) When the destination can be reached within twenty-four hours after death the coffin or casket shall be encased in a strong outer box made of good, sound lumber not less than seven-eighths of an inch thick. All joints must be tongued and grooved, the top and bottom put on with cleats or crosspieces, all put securely together and tightly closed with white lead, asphalt varnish or paraffin paint, and a rubber gasket placed on the upper edge between the lid and the box.

(b) When the destination can not be reached within twenty-four hours after death, the body shall be thoroughly embalmed and the coffin or casket placed in an outside case constructed as provided in paragraph a.

RULE 6. Every outside case shall bear at least four handles, and when over 5 feet 6 inches in length shall bear six handles,

is being generally disregarded, and the old-style box being approved by the states, I move to amend paragraph a of rule 3 by striking out the words "and tightly closed with white lead, asphalt varnish or paraffin paint, and a rubber gasket placed on the upper edge between the lid and the box."

WHEREAS, The widespread use of harmful patent and proprietary so-called medicines is an evil;

WHEREAS, These nostrums are pernicious and baneful in effect;

WHEREAS, The enormous profits accruing from the sale of these nostrums are derived largely from the income of the poor and unfortunate;

WHEREAS, The Conference of Secretaries of State and Provincial Boards of Health of North America, now assembled, is in full sympathy with the efforts of the United States government and Post-office Department in their attempts to control the deception practiced in the sale, manufacture and advertisement of the so-called remedies, and in hearty accord with the activities of the board of health of New York city and the state board of health of Louisiana in their attacks on these preparations, and with their regulations which require that all manufacturers print the formula of the contents on all labels or file with said boards the formulas used in the manufacture of such remedies: therefore, be it

Resolved, That we unanimously approve the campaign now in progress by the *American Medical Association Journal*, *Southern Medical Journal*, *Harper's Weekly*, *Ladies' Home Journal* and other publications, the New York city board of health, the Louisiana state board of health, and the work of Hon. Samuel Hopkins Adams, in the hope that this evil may be controlled and ultimately eliminated; and be it

Resolved, That a copy of these resolutions be transmitted to the solicitor of the Post-office Department.

Concerning the safe disposal of human excreta at unsewered homes, the following resolutions were adopted by Conference of Secretaries of State and Provincial Boards of Health of North America:

WHEREAS, Much preventable disease in the United States results from insanitary disposal of human excreta in our rural districts: therefore, be it

Resolved, (1) That the promotion of improved methods of disposal of human excreta at unsewered homes is one of the most important duties of municipal, county, state, territory, provincial and national health officials.

(2) That the only disposal methods to be recommended are those which prevent the conveyance, by water, foods, fingers, flies or other agencies, of human excreta to human mouths.

(3) That human excreta not previously treated so as to be rendered free from all living pathogenic agents likely to be contained in such matter should not be deposited in the ground at any place near, and certainly not less than 200 feet from, any source of water supply used by persons for drinking or culinary purposes or for washing foods or food containers.

(4) That the places used for the disposal of human excreta in the ground should, wherever practicable, be downhill, and never uphill, from dwellings and from sources of water supply.

(5) That at every place of human abode, and also at schools and churches, either sanitary water-closets or sanitary privies should be provided, and these should be used in a cleanly manner.

(6) That in advocating privies for use in the disposal of human excreta, not only proper construction but also proper upkeep and proper use of the same, and proper disposal of contents should be urged.

(7) That in general the only types of privy to be recommended as sanitary are those provided with water-tight receptacles to receive the excreta, and so constructed that flies can not have access to the excreta.

(8) That the construction and use of privies such as flyproof surface privies, unscreened receptacle privies and the so-called "pit privies," which may be improvements over existing privies in certain localities, but which can be made to serve the purpose of sanitary privies only under certain conditions of location, season and soil formation, should be suggested only as compromises and with a full presentation of their attendant dangers.

(9) That the so-called "pit privies" are especially unsuited for use in sections having limestone or marshy soil formation.

(10) That in recommending an installation or a modification of privies, the principles of sanitary disposal of human excreta should be emphasized.

The Surgeon General presented to the state secretaries a draft of the proposed new interstate quarantine regulations, which, after certain modifications, was adopted. It was recommended by the Surgeon General that these regulations be in turn adopted by the various states. In effect, these interstate quarantine regulations undertake to supervise the transportation of people suffering from certain communicable diseases, and to prohibit certain practices which hitherto endangered the public health; to fix standards for drinking-water for passengers; to abolish the common drinking-cup and towel; to govern the ventilation of toilets and lavatories on trains and in railroad stations, and in general to provide for the first real step in nation-wide railway sanitation.

The rules and regulations of the State Board of Health were made a number of years ago, and under the knowledge available at that time seemed to be the correct procedure; with the advancement made in sanitary science some of these rules need revision. It is therefore, recommended that a committee of the Board and of the advisory board be appointed to recommend such revision of the rules at the next quarterly meeting, which, together with the regulations adopted by the Surgeon General, will bring the Kansas rules and regulations up to date.

It is further recommended that the resolution adopted some years ago providing for the annual fumigation of schoolhouses be revised at this time, so that emphasis may be placed upon thorough cleansing and a

careful inspection of the water supply and toilet facilities rather than the mere fumigation of schoolhouses; that the routine fumigation of the schoolhouse be eliminated, but that fumigation be required only and immediately following the time of exposure to infection from infectious disease.

COUNTY SURVEY.

Early in April application was made to the Surgeon General for assistance from the United States Public Health Service in making a very thorough and searching sanitary survey of one of the counties in this state, similar to but more thorough than that made in Sumner county last year. The Surgeon General was good enough to grant our request, and on May 1 actual work was begun on the survey of Wilson county. Three experienced men of the Public Health Service have been detailed, together with two young men, Mr. Crosby Deacon and Mr. Morris Sanders, Washburn students, who assisted in the Sumner county survey, representing the State Board of Health in the work, but temporarily employed by the United States Public Health Service to the first of July on account of our lack of funds.

It is recommended that the Division of Communicable Diseases and Sanitation be authorized to employ these two young men out of the fund for that division to continue the work of the survey in collaboration with the United States Public Health Service. The fund for this division was increased by the last legislature in the sum of \$500 a year and it is recommended that the present efficient epidemiologist and his stenographer be retained in the work of the division for the next two years, or during the life of the appropriation.

DIVISION OF WATER AND SEWAGE.

The work of the Division of Water and Sewage has been very heavy during the past year, and much important work has been accomplished by the engineer and his two assistants.

The water and sewage laboratories of the State Board of Health have also been permanently established by a recent act of the legislature, and a vast amount of analytical work has been turned out by the director, Prof. C. C. Young, and his assistants.

The details of the work of this division will be given by the engineer in his annual report and by Professor Young in his annual report of the work done in the laboratories.

Your special attention is invited to the recommendations of the engineer concerning certain orders to be issued under the authority vested in the Board by the water and sewage law, with recommendation of the secretary that the orders be issued.

Your secretary further recommends that an order be issued against the city of Emporia, to the end that the people be compelled to furnish such further treatment for the water as will insure a safe and wholesome supply for domestic consumption to the citizens of that city and to the students attending the two great colleges located at Emporia, which are gathered from all parts of the state, making the interest in the water supply at Emporia a matter of state-wide importance.

Your attention is also respectfully invited to the work of this division in the treatment of industrial wastes from the Standard Oil refinery at Neodesha, the effluent of which was so seriously polluting the Verdigris river as to greatly threaten the water supplies of Independence and Coffeyville. This effluent has been treated in a manner as to render safe the water supplies of these two cities. This work was the result of painstaking research and investigation by our engineers and the water laboratories, and so far as is known is an entirely new contribution to the subject of the treatment of certain industrial oil wastes. The division is to be congratulated for this achievement alone, aside from the vast amount of other work which has been accomplished.

The engineer, Prof. C. A. Haskins, has secured a leave of absence from the University for a period of four months, which is approved by your secretary, for the purpose of engaging in an investigation of sewage-polluted streams in New Jersey by the United States Public Health Service, by which service he has been employed. This will give our engineer a new and desirable experience, and at the same time insure his return to us better equipped than ever for the work of this division for the coming year.

The rules and regulations submitted to the members of the Board by mail for adoption in relation to the water and sewage laboratories and the fees to be charged for analyses were approved by a majority of the members of the Board, but several members called into question the sum to be charged for the analysis of bottled waters, thinking that that might be excessive. It was thought best, therefore, to defer any further action upon these rules and regulations until the annual meeting. They will, therefore, be presented to you again, section by section, for approval, rejection or amendment.

DIVISION OF FOODS AND DRUGS.

The work of this division has gone forward under the supervision of the assistant chief food and drug inspector, Mr. Congdon. Perhaps the most notable work of the year in this division is the sanitary milk survey made in all towns of 3000 population and over, the report of which is published in the *April Bulletin*. This survey has resulted in the enactment of milk ordinances in a number of cities, and a closer inspection of the milk supplies, which must have an important bearing on the health of those communities.

For the past month most of the inspectors have worked in their respective home towns, and will do so during the month of June, on account of running out of expense money, and thus the wisdom of the 1913 legislature in reducing the expense budget of the inspectors has again been set at naught. The increased appropriation by the last legislature will probably enable us to keep our inspectors on the road during the entire year for the next biennium.

The details of the work of this division will be given by Mr. Congdon.

EGGS. At the meeting of the Association of American Dairy, Food and Drug Officials, held in Portland, Me., last summer, a resolution was adopted authorizing the president to appoint a committee for the purpose

of investigating into and reporting a plan for the proper production, marketing and conservation of eggs. This committee was appointed, and after considerable preliminary work, recently had a meeting in Chicago with a committee of the National Poultry, Butter and Egg Association, together with representatives of the federal government, several other state food officials, besides the committee and members of the Board. The scope and investigation of the egg committee was agreed upon as follows:

The committee organized by electing Dr. Carl L. Alsberg of the Bureau of Chemistry as chairman, and Hon. John B. Newman, assistant food commissioner of Illinois, as secretary. This committee then met with the committee of the National Poultry, Butter and Egg Association as a joint committee and agreed upon the following proposition: That the states and federal government permit the shipment of so-called "under-grade eggs" (third-grade eggs, a fuller definition of which will be given later) in interstate and intrastate commerce, providing that such eggs be shipped in identified cases directly from the final objective point to the egg-breaking establishments, which should be under state or federal supervision. That these identified cases should be sealed with a seal bearing the words "for breaking stock," and that such shipments should not include eggs of the following description: Yolks stuck to the shell, heavy blood rings, partially hatched, mouldy eggs, black spots, black rots, and all other eggs of an unwholesome nature, such eggs not to be allowed to be shipped in interstate commerce unless they are denatured, or under certain other restrictions to be set forth or agreed upon later.

It was agreed, also, that complete records by shippers of all shipments made should be kept, as well as complete records of all receipts in egg-breaking establishments, with records as to the final disposition of all eggs thus received.

It was recommended by the joint committee that all egg-breaking establishments should be under federal or state supervision; that the states should formulate some plan or license system, by which egg-breaking establishments should be required to be licensed, with the payment of fees in such amounts as to provide for inspection. It is therefore recommended that the recommendation of the joint committee receive your earnest consideration at this time, to the end that such regulations will be enacted as seem necessary to put into effective operation the suggestions of the joint committee.

DIVISION OF VITAL STATISTICS.

As indicated in our last report, Kansas has been admitted into the registration area for mortality reports. The death returns are probably as accurate in Kansas as in any other state in the registration area, with the possible exception of two or three other states.

Mr. Deacon, the registrar, has suggested that some proper person be selected and employed to travel on the road for the purpose of checking up the vital statistics law, having two objects in view—first, the education of the people to a realizing sense of the importance of the registration of the births of children, its vital relation to their citizenship and

property rights and to certain fundamental principles of sanitation; and second, by wise, discreet and wholesome suggestion to enforce the provisions of the law where there is ignorance, neglect or willful violation. It is recommended that the registrar's suggestions in this particular be approved. In this connection it has been thought that a capable and discreet woman might more successfully accomplish this work than any other. Moreover, this same woman might work in conjunction and co-operation with the new Division of Child Hygiene (which will be mentioned later), and thus the interests of both of these divisions be advanced. Mr. Deacon will give a detailed report of the work of this division.

DIVISION OF EDUCATION AND PUBLICITY.

The work of this division has gone forward in the usual and regular channel, with this particular addition, that this year we again got out our annual Health Almanac in sufficient numbers to distribute one to every teacher in all the public schools of the state.

The following letter to superintendents of schools is self-explanatory:

TOPEKA, KAN., January 28, 1915.

To Superintendents of Schools in Cities of the First Class, and to County Superintendents of Public Instruction:

We are to-day sending to your address by parcel post a package of Kansas Health Almanacs, which is estimated to be enough for each teacher under your jurisdiction; that is, either in cities of the first class or in counties outside of cities of the first class, as the case may be.

You will confer a great favor on this department, and we believe render a valuable service to public health and to public welfare if you will be so good as to see to the distribution of these almanacs to your teachers, with request that the historical Kansas event of the day, and at least one health epigram or one subject in the almanac, be read at an appropriate time each day of the school year.

Thanking you for your cordial coöperation, I am,

Sincerely yours,

S. J. CRUMBINE, M. D., *Secretary.*

Requests for this almanac by the public in general continue to come in, and our edition of 40,000 copies is about exhausted.

The annual Summer School for Health Officers and Physicians held a two weeks' session this year, the first week being held in Lawrence and the second week in Rosedale. The number in attendance was extremely gratifying, considering the length of time that these physicians were compelled to remain away from their practice. The list of those in attendance is given herewith. Certificates of attendance will be issued to all those who attended the entire course.

(List of those attending the Summer School for Health Officers and Physicians, April 19 to May 1, 1915).

Frank L. Abbey, M. D., Newton.

H. L. Aldrich, M. D., Caney.

Warren B. Beach, M. D., Concordia.

J. A. Baker, M. D., National Military Home, Leavenworth.

Pat G. Bennett, M. D., Haviland.

J. J. Brady, M. D., Frankfort.

J. H. Buckles, M. D., 1501 South 22d street, Kansas City, Kan.

R. E. Buckmaster, M. D., New Ulysses.

E. R. Cheney, M. D., Gypsum.

A. J. Chesley, M. D., Minneapolis.

C. E. Coburn, M. D., Kansas City.

W. J. V. Deacon, State Registrar, Topeka.

Lillian Davis, R. N., Public Health Nurse, Topeka.

J. B. Donnell, M. D., Kinsley.

A. C. Dillon, M. D., Osborne.

E. C. Duncan, M. D., Fredonia.	M. McNalley, M. D., Michigan Valley.
J. L. Everhardy, M. D., Leavenworth.	E. L. Morgan, M. D., Phillipsburg.
A. M. Fortney, M. D., DeSoto.	J. C. Montgomery, M. D., Manhattan.
J. C. Fear, M. D., Waverly.	Stewart McKee, M. D., Leavenworth.
Wm. F. Fee, M. D., Meade.	W. W. Nye, M. D., Hiawatha.
A. W. Freeman, M. D., U. S. Public Health Service, Washington, D. C.	R. T. Nichols, M. D., Manhattan.
John S. Fulton, M. D., Baltimore, Md.	Laura A. Neiswanger, R. N., Public Health Nurse, Lawrence.
M. V. Gardner, M. D., Greenleaf.	Clarence E. Sanders, M. D., Rosedale.
W. E. Ham, M. D., Beattie.	C. L. Randall, M. D., Neodesha.
H. E. Hays, M. D., Attica.	Geo. H. Smith, 650 Minnesota avenue, Kansas City, Kan.
C. F. Harrar, Fort Scott.	Doctor Settle, City Physician, Reading.
E. O. Humphrey, Chicago, Ill.	Chas. M. Siever, M. D., Holton.
W. Y. Herrick, M. D., Wa Keeney.	W. F. Schoor, M. D., Hutchinson.
A. E. Harrison, M. D., Herington.	John J. Sippy, M. D., State Board of Health, Topeka.
T. Restin Health, M. D., Edwardsville.	J. H. Stough, M. D., Overland Park.
M. H. Keefer, M. D., Kansas City.	D. R. Stoner, M. D., Quinter.
C. H. Keentz, M. D., Onaga.	J. H. Topscott, M. D., Rozel.
Forrest A. Kelley, M. D., Winfield.	Stewart G. Thompson, Topeka.
J. G. Lee, M. D., Eudora.	H. C. Yarbrough, U. S. Public Health Service, Washington, D. C.
L. E. Lee, M. D., Bonner Springs.	S. J. Crumbine, M. D., Secretary State Board of Health, Topeka.
O. M. Longenecker, M. D., Rosedale.	
C. C. Lull, M. D., Topeka.	
C. W. Laughlin, M. D., Kansas City.	
W. F. Mooney, M. D., Barnard.	

The new exhibit, featuring the activities of the various divisions of the Board's work, has been progressing slowly but satisfactorily, and we hope in the near future to have a very creditable and entirely new exhibit, which can be sent on short notice to any part of the state for educational purposes.

NEW LEGISLATION.

The legislature of 1915 passed several laws of importance to the State Department of Health, the most important of which are:

- (1) The creation of a new Division of Child Hygiene.
- (2) The statutory creation of a water and sewage laboratory of the State Board of Health at the University of Kansas, with a periodical analyses of all waters supplied for domestic purposes in this state, and the authorization for charging a fee for such services, to be used for the purposes of the laboratory.
- (3) A much-needed and long-sought-for amendment to the vital statistics law, whereby the number of local registrars can be reduced from approximately 1500 to about 1000.
- (4) An increased appropriation in several divisions of the Board's work.
- (5) The passage of a false-advertising law.
- (6) A law providing for free dental clinics in cities of 40,000 or over.

Sometime ago I submitted to members of the Board by mail the name of Dr. Lydia Allen DeVilbiss of the state department of health of New York for the position of chief of the Division of Child Hygiene, at a salary of \$2400 a year. All the members of the Board replied in the affirmative except one, who has not yet been heard from. I would recommend that the Board confirm that selection by a vote in regular session, and that the time of service be for a period of two years or during the life of the appropriation made by the legislature. I had the opportunity of a talk with Doctor DeVilbiss while in New York recently, and I am

very greatly pleased with her personal appearance and her evident ability. She expects to take up the work of the division on the first of July. Unfortunately, the appropriation for the work is not in sufficient amount to do much but to carry on an educational campaign during the next two years. She will also need a stenographer, and I would recommend that that position be given to Miss Eunice Catton, who is at the present time stenographer for Professor Haskins in his office at Lawrence. Professor Haskins recommends her very highly as being particularly efficient as a stenographer and clerk. Miss Catton has an A. B. degree, and her experience in board of health work, together with her educational qualifications, make it highly desirable that we secure her services.

In this connection, also, I beg to have your approval of the following arrangement as to the manner of paying her salary: Part of her time will be devoted to work in the Division of Water and Sewage in this office, and part of her time to work for the Division of Child Hygiene under Doctor DeVilbiss. The matter was submitted to Auditor Davis as to whether or not, therefore, her salary could be paid in part out of the water and sewage fund, known as the "sanitary fund," and from the Division of Child Hygiene fund. The auditor agreed that that would be permissible. It is suggested, therefore, that \$50 a month be paid out of the sanitary fund toward her salary, and the remaining \$25 be paid out of the appropriation for the Division of Child Hygiene.

The governor recently appointed two members of the Barbers' Examining Board, subject to examination by the State Board of Health. Upon the president of the Board being notified of the above facts, he appointed Doctors Lerrigo, Magee, Sippy and the secretary as a committee of the Board to examine said candidates. The examination was held and the candidates failed to pass.

SANITARY FUND.

The appropriation for the Division of Water and Sewage (the sanitary fund) has been increased from \$2000 to \$5000 a year, with a provision for certain research and investigation in the matter of industrial wastes that are polluting certain streams in Kansas. It is recommended, therefore, that the division be authorized to make such plans and appropriate such portions of this fund as is necessary to carry out the intent and purposes of the appropriation.

In addition to this investigation, it is planned by the division to exercise a careful and close supervision over the operation of all water-purification plants and sewage-disposal plants in the state during the next two years. If through these means we will be enabled to reduce the morbidity and mortality rate from typhoid fever in Kansas during the coming biennium we will have accomplished our purpose and have proven to the people the great importance of water and sewage supervision.

Altogether the outlook for the coming biennium is encouraging. With a harmonious working force, with some increased appropriations, together with new weapons of warfare in the creation of the new Division of Child Hygiene, we can look forward with confidence to the future in the belief that the morbidity and the mortality rate in Kansas will be further reduced.

Respectfully submitted.

S. J. CRUMBINE, *Secretary.*

Minutes of the Annual Meeting of the State Board of Health, 1915.

Held in the offices of the secretary, Topeka, Kan., June 8, 1915.

The annual meeting of the State Board of Health was held in the offices of the secretary, in the statehouse, Topeka, Kan., June 8, 1915.

Upon roll call, all the members of the Board were present, including Doctors Cummings, Alexander, Lerrigo, Ewing, Orr, Earnest, Coburn, Aldrich, Walker, and the attorney, Mr. Locke, all the new members of the Board having previously taken the oath of office in the office of the secretary of state.

The following members of the advisory board were present: Mr. Welker, assistant engineer; Doctor Greenfield, bacteriologist; Prof. J. T. Willard, food analyst; Mr. Deacon, state registrar; Mr. Congdon, assistant chief food and drug inspector.

The three conferees of the Board, Mr. Tilford, Mr. Thompson and Mr. Kimball, were also present.

The minutes of the last meeting of the Board, held December 18, 1914, were read, and upon motion were approved and ordered placed on file.

The report of the secretary was then read, after which the recommendations made by the secretary were placed before the Board for discussion.

Upon motion the resolutions adopted at the 1915 Conference of the State and Provincial Boards of Health of North America were adopted, which includes the revision of rule 3 on the transportation of the dead, which rule, as amended, would read as follows:

WHEREAS, Rule 3 of the rules governing the transportation of the dead, adopted at St. Paul in 1913 by this conference, which reads as follows:

RULE 3. The transportation of the bodies dead of any disease other than those mentioned in rule 2 shall be permitted under the following conditions:

(a) When the destination can be reached within twenty-four hours after death the coffin or casket shall be encased in a strong outer box made of good, sound lumber not less than seven-eighths of an inch thick. All joints must be tongued and grooved, the top and bottom put on with cleats or crosspieces, all put securely together and tightly closed with white lead, asphalt varnish or paraffin paint, and a rubber gasket placed on the upper edge between the lid and the box.

(b) When the destination can not be reached within twenty-four hours after death the body shall be thoroughly embalmed and the coffin or casket placed in an outside case constructed as provided in paragraph a.

RULE 6. Every outside case shall bear at least four handles and when five feet six inches in length shall bear six handles,

is being generally disregarded and the old-style box being approved by the states, I move amendment paragraph a of rule 3 by striking out the words "and tightly closed with white lead, asphalt varnish or paraffin paint and a rubber gasket placed on the upper edge between the lid and the box."

In these resolutions were included resolutions on patent medicines and on the safe disposal of human excreta at unsewered homes, which follow herewith:

WHEREAS, The widespread use of harmful patent and proprietary so-called medicines is an evil;

WHEREAS, These nostrums are pernicious and baneful in effect;

WHEREAS, The enormous profits accruing from the sale of these nostrums are derived largely from the income of the poor and unfortunate;

WHEREAS, The Conference of Secretaries of State and Provincial Boards of Health of North America, now assembled, is in full sympathy with the efforts of the United States government and Postoffice Department in their attempts to control the deception practiced in the sale, manufacture and advertisement of the so-called remedies, and in hearty accord with the activities of the board of health of New York city and the state board of health of Louisiana in their attacks on these preparations and with their regulations which require that all manufacturers print the formula of the contents on all labels or file with said boards the formulas used in the manufacture of such remedies: therefore, be it

Resolved, That we unanimously approve the campaign now in progress by the *American Medical Association Journal*, *Southern Medical Journal*, *Harper's Weekly*, *Ladies' Home Journal* and other publications, the New York city board of health, the Louisiana state board of health, and the work of Hon. Samuel Hopkins Adams, in the hope that this evil may be controlled and ultimately eliminated: and be it

Resolved, that a copy of these resolutions be transmitted to the solicitor of the Post-office Department.

SAFE DISPOSAL OF HUMAN EXCRETA AT UNSEWERED HOMES.

Resolutions adopted by Conference of Secretaries of State and Provincial Boards of Health of North America.

WHEREAS, Much preventable disease in the United States results from insanitary disposal of human excreta in our rural districts: therefore, be it

Resolved, (1) That the promotion of improved methods of disposal of human excreta at unsewered homes is one of the most important duties of municipal, county, state, territory, provincial and national health officials.

(2) That the only disposal methods to be recommended are those which prevent the conveyance, by water, foods, fingers, flies or other agencies, of human excreta to human mouths.

(3) That human excreta not previously treated so as to be rendered free from all living pathogenic agents likely to be contained in such matter should not be deposited in the ground at any place near, and certainly not less than 200 feet from, any source of water supply used by persons for drinking or culinary purposes or for washing foods or food containers.

(4) That the places used for the disposal of human excreta in the ground should, wherever practicable, be downhill, and never uphill, from dwellings and from sources of water supply.

(5) That at every place of human abode, and also at schools and churches, either sanitary water-closets or sanitary privies should be provided, and these should be used in a cleanly manner.

(6) That in advocating privies for use in the disposal of human excreta, not only proper construction but also proper upkeep and proper use of the same, and proper disposal of contents should be urged.

(7) That in general the only types of privy to be recommended as sanitary are those provided with water-tight receptacles to receive the excreta, and so constructed that flies can not have access to the excreta.

(8) That the construction and use of privies such as fly-proof surface privies, unscreened receptacle privies and the so-called "pit privies," which may be improvements over existing privies in certain localities, but which can be made to serve the purpose of sanitary privies only under certain conditions of location, season and soil formation, should be suggested only as compromises and with a full presentation of their attendant dangers.

(9) That the so-called "pit privies" are especially unsuited for use in sections having limestone or marshy soil formation.

(10) That in recommending an installation or a modification of privies, the principles of sanitary disposal of human excreta should be emphasized.

Upon motion, the Board approved the coöperative survey between the state of Kansas and the United States Public Health Service of Wilson county, and ordered the employment of Mr. Crosby Deacon and Mr. Morris Sanders, at a salary of \$60 a month and expenses, to take effect July 1, 1915, and to continue during the work of the survey in Wilson county.

Upon motion, leave of absence of our engineer, Prof. C. A. Haskins, for a period of four months from June 1, was approved, said leave of absence being for the purpose of making investigation with the United States Public Health Service of the pollution of the natural waters in New Jersey.

Upon motion, the Board unanimously approved the employment of Dr. Lydia Allen DeVilbiss as chief of the Division of Child Hygiene, at a salary of \$2400 a year and expenses, for the coming biennium or during the life of the appropriation.

The Board also unanimously approved the employment of Miss Eunice Catton as stenographer for the Division of Child Hygiene and the Division of Water and Sewage, and directed that her salary of \$75 a month be paid by appropriating \$50 a month from the water and sewage fund, known as the "sanitary fund," and \$25 a month from the Division of Child Hygiene fund.

Upon motion, the Division of Water and Sewage was authorized to make such plans and appropriate such portions of the sanitary fund as are necessary to investigate the question of the pollution of the natural waters of the state by industrial wastes, and to make such plans and to appropriate such portions of the sanitary fund as will be necessary to exercise a careful and close supervision over the operation of all water-purification plants and sewage-disposal plants operating in the state during the next two years.

The report of the state registrar was then read, and upon motion, the Board instructed the Division of Vital Statistics to employ some person, preferably a woman, as a field agent to check up the reports of births and deaths throughout the state, and to work in conjunction and co-operation with the Division of Child Hygiene.

Upon motion, the president appointed an auditing committee to audit the state registrar's accounts, composed of Doctors Alexander and Greenfield and Mr. Tilford. The committee reported back as follows:

"We, the undersigned auditing committee, report that we have examined the books of the registrar and find them correct."

The report of the auditing committee was thereupon adopted.

Upon motion, the present chief clerk, Mr. Stewart Thompson, was promoted to the position of assistant state registrar, with an increase of salary to \$1400 a year beginning July 1, and to \$1500 a year beginning January 1, 1916.

The Board then took up for discussion the recommendation of the secretary concerning the supervision and regulation of certain classes of eggs and egg-breaking establishments. Mr. Sherman White, of Chicago, a member of the committee representing the National Poultry, Butter and Egg Association, being present, was called upon for information concerning this complex and difficult problem. Mr. Harry Perry, a member of the Seymour Packing Company, of Topeka, also made a few remarks, whereupon the following regulation was unanimously adopted:

RULES AND REGULATIONS RELATING TO EGGS.

In force on and after July 1, 1915.

It is hereby ruled:

I. That it shall be unlawful to ship in any kind of a container, or in any manner for food purposes, eggs known as yolks stuck to the shell, heavy blood rings, partially hatched, mouldy eggs, black spots, black rots, and all other eggs of an unwholesome nature.

II. That eggs known as "rejects" by the candling process, and exclusive of the above-named variety, may be shipped when packed in cases sealed with identifying strips approved by the State Board of Health. Eggs when so shipped may be routed or consigned to a regular egg dealer or broker, but shall not leave the identified cases except in egg-breaking establishments, which are either licensed or operated under the approval of the Bureau of Chemistry of the federal government, or the State board of Health.

III. Egg-breaking establishments located in the state of Kansas must be of an approved sanitary type, complying with the state sanitary food law and the rules and regulations of the State Board of Health, which approval shall be evidenced by the issuance of a license of such form as may be hereafter adopted by the secretary of the State Board of Health, and upon such conditions as may be hereafter provided by the said board.

IV. Such egg-breaking establishments as desire inspection of products manufactured or packed therein may secure such inspection upon such terms and conditions as may be approved by the standards committee.

The report of the state engineer was then read, and upon motion was adopted, and the recommendations of the engineer and the secretary were approved, including the issuance of the following orders:

OLATHE.

WHEREAS, There is in the city of Olathe a residence district within two blocks of the business district not provided with adequate sewers, thereby forcing the residents to construct unsanitary and unsatisfactory privy vaults and cesspools for the disposal of their domestic wastes; and

WHEREAS, The said privy vaults and cesspools are a source of inconvenience to many persons and are a menace to the public health: therefore, be it

Resolved, That the city of Olathe is hereby requested to remedy this condition at once by the construction of such main and lateral sewers as will adequately serve this said district.

M'PHERSON.

WHEREAS, Prior to 1907 the city of McPherson constructed a sewage-disposal plant consisting of septic tank and filter bed for disposing of the sewage of a portion of that city; and

WHEREAS, The design and construction of said sewage-disposal plant is poor and inadequate, so that the effluent from the same is of a noxious and disagreeable character; and

WHEREAS, The effluent of the said sewage-disposal plant is discharged into the ravine near one of the main roads leading out of the city, thus polluting the waters of the state, causing a nuisance and a menace to the health of many persons: therefore, be it

Resolved, That the city of McPherson is hereby ordered to discontinue the discharge of effluent of said plant into the waters of the state on and after the first day of January, 1916; provided, however, that if the said plant be reconstructed and the said reconstruction be approved by the State Board of Health this order shall be null and void.

COUNCIL GROVE.

WHEREAS, The private company operating the waterworks plant at Council Grove, Kan., known as the Council Grove Water Company, has during the past year constructed a water-purification plant consisting of sedimentation and coagulation basins, coagulating, mixing and dosing equipment, mechanical filters, and a clear well, in addition to other improvements for treating and furnishing water to the city of Council Grove; and

WHEREAS, Such improvements were constructed in accordance with plans and specifications submitted to and approved by the secretary and engineer of the State Board of Health; and

WHEREAS, Subsequent tests of this plant by a representative of this Board has shown it to be capable of furnishing safe and clean water for domestic purposes: therefore, be it

Resolved, That the same be and hereby is approved by the State Board of Health.

NEODESHA.

WHEREAS, Untreated sewage from the city of Neodesha is discharged into the Verdigris river at a point less than ten miles above the waterworks intake of the city of Cherryvale, less than twenty miles above the waterworks intake of the city of Independence, and less than forty miles above the waterworks intake of the city of Coffeyville; and

WHEREAS, The discharge of such sewage pollutes the water of said river and renders it impure and unfit for domestic use and dangerous to the health of the inhabitants of said cities of Cherryvale, Independence and Coffeyville: therefore, be it

Resolved, That the city of Neodesha be and hereby is ordered to discontinue the discharge of the said untreated sewage into the waters of the state on and after July 1, 1916; provided, that if said sewage be treated in a manner satisfactory to the State Board of Health the discharge of the treated effluent may be permitted.

STATE HOSPITAL FOR THE INSANE AT OSAWATOMIE.

WHEREAS, The State Hospital for the Insane at Osawatomie is provided with raw water from the Marais des Cygnes river for drinking and domestic purposes, as well as for sprinkling, washing and fire protection; and

WHEREAS, The city of Osawatomie is at present constructing a modern and efficient rapid sand filter for treating water for drinking, domestic and other uses for the citizens of Osawatomie; and

WHEREAS, the Board of Control of the said hospital for the insane has been authorized in a resolution by the last legislature to purchase water from the said city after the said filter plant has been completed, on the approval of the governor; and

WHEREAS, The city of Osawatomie, through its mayor and commissioners, is willing to sign a reasonable and just contract for furnishing pure and wholesome water from the city's plant at a reasonable rate, which from available figures will cost the said hospital for the insane

approximately only as much as it is costing at the present time to furnish the impure water as it is being furnished: therefore, be it

Resolved, That the State Board of Control be and hereby is ordered to discontinue the furnishing of said impure raw water from the Marais des Cygnes river through its pipes in the buildings for drinking, washing, rinsing of cans or utensils, or for any other domestic purpose on and after January 1, 1916.

EMPORIA.

WHEREAS, The water supply of the city of Emporia has been repeatedly shown by the State Board of Health to be of such a character that the sanitary quality of the water supplied for domestic and drinking purposes is such as to be prejudicial to the public health: therefore, to safeguard the public health, be it

Resolved, That by and under the authority conferred upon the State Board of Health by chapter 382, Laws of 1907, amended by chapter 226, Laws of 1909, that the city of Emporia is hereby ordered to institute such improvements in the manner of treatment of water supplied for domestic purposes as will insure a safe and wholesome supply of water at all times and under all conditions. Said improvements to be instituted before the first day of June, 1916.

Also including the adoption of the following regulation:

"All companies, institutions or municipalities discharging treated sewage into the waters of the state are required to make an inspection of their sewage-disposal plant at least once each week, collecting such information concerning its condition or operation as may be deemed necessary by the Division of Water and Sewage of the State Board of Health, such information or condition of operation to be tabulated on printed forms, copies of which shall be forwarded to the State Board of Health at least once each month, or as often as may be requested by the secretary of said Board."

The report of the bacteriologist was then read and ordered placed on file.

The report of the director of the water and sewage laboratories was then read, which was approved and ordered placed on file.

The Board then unanimously adopted the following rules and regulations, provided under chapter 327 of the Laws of 1915:

RULES AND REGULATIONS OF THE STATE BOARD OF HEALTH FOR THE COLLECTION OF SAMPLES AND ANALYSIS OF WATER.

Session Laws of 1915—House bill No. 503.

AN ACT giving the State Board of Health power to require analysis of water furnished or sold to the public, and to provide rules and regulations for said analysis and collection of samples of water, and to prescribe penalties for the violation of said rules and regulations.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. That the State Board of Health shall make and publish in the official state paper rules and regulations for the collection of samples and analysis of water, either natural or treated, furnished by municipalities, corporations, companies or individuals, to the public, and shall fix the fees for any services rendered under said rules and regulations to cover the cost of the services, which fees shall be approved by the State Board of Administration before they become operative.

SEC. 2. The analysis of all waters required in the rules and regulations shall be made at the water and sewage laboratory of the State Board of Health in the University of Kansas, and the fees collected under the

provisions of this act shall be turned into the state treasury for the benefit of said laboratory of the University of Kansas.

SEC. 3. That every corporation, railway, common carrier, company or individual that shall fail to comply with the rules and regulations prescribed by the State Board of Health under this act shall be deemed guilty of a misdemeanor and upon conviction shall be fined not less than \$50 nor more than \$500.

SEC. 4. This act shall take effect and be in force from and after its publication in the official state paper.

Rules and Regulations Governing Collection of Samples and analysis of Water from City Supplies Furnishing Ground Water to the Public.

1. A complete sanitary inspection of city supplies furnishing ground water shall be made by a representative of the Division of Water and Sewage of the State Board of Health at least once each year and samples collected for analysis. Samples so collected shall be subjected to a complete analysis at the water and sewage laboratory of the State Board of Health, including microscopical, bacteriological, sanitary, chemical, and mineral examinations.

2. A second sample shall be collected, according to directions sent out by the water and sewage laboratory of the State Board of Health, by city officials, waterworks officials, or other persons authorized by the secretary of the State Board of Health, upon receipt of container from said laboratory, and shall return said container within one week from date of receipt.

3. Results of these analyses, with any pertinent remarks and advice, shall be reported to the person whose name is signed to the information blank and to the secretary of the State Board of Health.

4. As many additional analyses shall be made as are deemed necessary by the engineer of the State Board of Health to show the quality of the water.*

5. Fees for services rendered under these rules and regulations for ground-water supplies shall be payable July 1 of each year to the director of the water and sewage laboratory of the State Board of Health at the University of Kansas, Lawrence, Kan.

6. Fees have been fixed based upon the population of the cities. The population of a city shall be taken from the preceding state enumeration.

Population of cities.	Fees.
Under 500	\$12.50
500 to 1,000	20.00
1,000 to 2,000	25.00
2,000 to 3,000	30.00
3,000 to 5,000	35.00
5,000 to 15,000	40.00
15,000 and up	50.00

Rules and Regulations Governing Collection of Samples and Analysis of Water from City Supplies Furnishing Surface Water to the Public.†

1. A complete sanitary inspection of city supplies furnishing surface water shall be made twice annually, and tests of the operation of the plant shall be carried on at the time of these inspections by a representative of the Division of Water and Sewage of the State Board of Health.

2. Samples shall be collected weekly, according to directions of the water and sewage laboratory, by city officials, waterworks officials or other persons authorized by the secretary of the State Board of Health, from

* Analyses of proposed city supplies shall be made upon request to the Water and Sewage Division of the State Board of Health.

† Analyses of chemicals used in water purification shall be analyzed upon request.

the raw and finished treated water and sent to said laboratory for analysis in containers furnished.

3. Results of these analyses, with any pertinent remarks and advice, shall be reported to the person whose name is signed to the information sheet, and to the secretary of the State Board of Health.

4. City officials shall be required to keep any data on the operation of purification plants that may be required by the Division of Water and Sewage of the State Board of Health. This data shall be transmitted to the engineer of the division upon his request.

5. Fees for the services rendered under these rules and regulations pertaining to surface water supplies shall be payable July first of each year to the director of the water and sewage laboratory of the State Board of Health at the University of Kansas, Lawrence, Kan.

6. Fees have been fixed based upon the population of the cities. The population of a city shall be taken from the preceding state enumeration.

Population of cities.	Fees.
Under 1,500	\$30.00
1,500 to 3,000	50.00
3,000 to 6,000	90.00
6,000 to 10,000	100.00
10,000 and above	150.00

Rules and regulations governing collection of samples and analysis of drinking water supplied to the public by common carriers.

1. Sanitary inspections of the sources of supply and methods of handling water furnished by common carriers to the public within the state shall be made twice annually by a representative of the Division of Water and Sewage of the State Board of Health.

2. Samples shall be collected at the time of inspection from the sources of supply and the place where trains are watered. Samples so collected shall be subjected to complete analysis in the water and sewage laboratory of the State Board of Health in accordance with the standard adopted by the United States Treasury Department for drinking water supplied to the public by common carriers in interstate commerce.

3. Results of these analyses shall be reported to the proper railroad official, to the secretary of the State Board of Health, and to the Surgeon General of the United States Public Health Service.

4. In case a water supply furnished by common carriers to passengers in the state does not meet the requirements of the standard of the Treasury Department, and repairs or improvements on the supply are made with the approval of the Division of Water and Sewage of the State Board of Health, one additional analysis shall be made without cost to the common carrier.

5. Railroads or common carriers shall file with the water and sewage laboratory of the State Board of Health a list of all places in the state of Kansas where passenger trains are furnished with water for drinking purposes, and the said laboratory shall be notified at once in case any change is made in the source of supply or method of handling the water.

6. The fees for the services rendered under these rules and regulations pertaining to railroads or common carriers shall be payable July 1 of each year to the director of the water and sewage laboratory of the State Board of Health at the University of Kansas, Lawrence, Kan.

7. The fee for analysis shall be \$30 annually for each place where passenger trains are furnished with water to be used by passengers.

Rules and regulations governing collection of samples and analysis of waters sold to the public for domestic consumption in bottles or other containers.

1. All plants for the preparation of water for sale in bottles or other containers for domestic consumption and the sources of water supply shall be inspected twice annually by a representative of the Division of

Water and Sewage of the State Board of Health, and samples collected for complete analysis by the water and sewage laboratory of the State Board of Health.

2. Bottles or other containers in which water is sold to domestic consumers must be sterilized before refilling. The method of sterilization shall be passed upon and approved by the water and sewage laboratory of the State Board of Health, subject to approval by the State Board of Health.

3. Processes of purification of waters that are to be sold for domestic consumption must be passed upon and approved by the water and sewage laboratory of the State Board of Health, subject to approval by the State Board of Health before the water can be sold or offered for sale.

4. Any company, corporation or individual outside of the state of Kansas preparing water for sale within the state of Kansas shall file full information with the water and sewage laboratory of the State Board of Health at the University of Kansas, Lawrence, Kan., as to the sources of supply and methods of sterilization of bottles and equipment for handling the water, and shall collect samples twice each year, according to directions, in containers sent out by the water and sewage laboratory of the State Board of Health, and return same at once for complete analysis, carriers charges prepaid.

5. Reports of analysis shall be made to the person signing the information blank and to the secretary of the State Board of Health, and permits shall be issued by the secretary of the State Board of Health for the sale of a water based upon the results of analysis and inspection and the recommendations of the Division of Water and Sewage of the State Board of Health.

6. The fees for the services rendered under these rules and regulations pertaining to bottled and treated waters shall be payable July 1 of each year to the director of the water and sewage laboratory of the State Board of Health at the University of Kansas, Lawrence, Kan.

7. The fee shall be \$30 annually for each source of supply from which water is bottled.

In case a person, company, corporation, institution or municipality believes that a decision of the Division of Water and Sewage of the State Board of Health is unjust or unfair in any matter pertaining to the administration of the rules and regulations herein contained, he shall within thirty days have the privilege of appealing to the State Board of Health as a whole, and said State Board of Health shall approve, set aside or modify the decision of the Division of Water and Sewage.

Fees collected under these rules and regulations shall be distributed over the expenses of collection and shipping of samples and making of analyses, under the direction of the State Board of Health, subject to the approval of the Board of Administration of Educational Institutions.

The epidemiologist then made his report, which was adopted and ordered to be placed on file.

The following resolution was then introduced, and upon motion was unanimously adopted:

Be it Resolved, That the following be adopted as a regulation of the Kansas State Board of Health: That in the interest of the public health, all schoolhouses shall be thoroughly cleansed at some time during the annual vacation, and disinfected at such times when known to be infected by a contagious or infectious disease; that the source of water supply be inspected as to its wholesomeness and purity, and that the privies be required to be put in a sanitary condition before the fall term of school begins.

Be it further Resolved, That the enforcement of the provisions of this regulation shall be a part of the duties of city health officers in cities of the first class and of county health officers in all territory outside of cities of the first class, in their respective jurisdictions.

Upon motion, the president was authorized to appoint a committee to revise the rules and regulations of the State Board of Health pertaining to sanitation and communicable diseases. The president appointed the following committee: The secretary, chairman, Doctors Lerrigo and Sippy, and the attorney, Mr. Lock.

The report of the assistant chief food and drug inspector followed, which, upon motion, was ordered to be placed on file.

The report of Professor Willard, food analyst, was then read and ordered to be placed on file.

The report of the drug analyst, Professor Sayre, was then read by title only, and ordered to be placed on file.

The report of Professor Bailey, food analyst, was not presented.

The report of the standards committee was then made, and, upon motion, the standard for gluten flour was revised to read as follows, and new standards for ground gluten, gluten flour, self-raising and diabetic food, as follows:

II. VEGETABLE PRODUCTS.—A. *Grain Products*.—a. Grain and Meal.

5. (a) *Ground gluten* is the clean, sound product made from wheat flour by the almost complete removal of starch, and contains not more than ten per cent (10%) of moisture, and, calculated on the water-free basis, not less than fourteen and two-tenths per cent (14.2%) of nitrogen, not more than fifteen per cent (15%) of nitrogen-free extract (using the protein factor 5.7), and not more than five and five-tenths (5.5%) per cent of starch (as determined by the diatase method).

(b) *Gluten flour* is the clean, sound product made from wheat flour by the removal of a large part of the starch, and contains not more than ten per cent (10%) of moisture, and, calculated on the water-free basis, not less than seven and one-tenth per cent (7.1%) of nitrogen, not more than fifty-six per cent (56%) of nitrogen-free extract (using the protein factor 5.7), and not more than forty-four per cent (44%) of starch (as determined by the diatase method).

(c) *Gluten flour, self-rising*, is a gluten flour containing not more than ten per cent (10%) of moisture, and leavening agents with or without salt.

(d) "*Diabetic*" food. Although most foods may be suitable under certain conditions for the use of persons suffering from diabetes, the term "diabetic" as applied to food indicates a considerable lessening of the carbohydrates found in ordinary products of the same class, and this belief is fostered by many manufacturers on their labels and in their advertising literature. A "diabetic" food contains not more than half as much glycogenic carbohydrates as the normal food of the same class. Any statement on the label which gives the impression that any single food in unlimited quantity is suitable for the diabetic patient is false and misleading.

Upon motion, these standards were ordered to be printed in the official state paper as an amendment to regulation 35 of the Kansas food and drugs law, and to be paged properly under the appropriate paragraph.

Upon motion, the Board ordered research work by the Division of Water and Sewage on industrial wastes published in the *Bulletin* of the State Board of Health.

Next in order was the annual election of officers, which resulted as follows:

President, Dr. H. L. Aldrich.

Vice president, Dr. Jessie T. Orr.

State registrar, for a period of four years beginning July 1, 1915, Mr. W. J. V. Deacon.

Epidemiologist, for a period of two years beginning July 1, 1915, Dr. J. J. Sippy.

Stenographer, Division of Sanitation and Communicable Diseases, Miss Marita Cromwell.

Bacteriologist for the ensuing year, Dr. Sara E. Greenfield.

Engineer, Prof. C. A. Haskins.

Assistant engineers, Mr. Fred Hesser and Mr. Joseph Welker.

Pathologist, Dr. R. S. Magee.

Sociologist, Prof. Frank Blackmar.

Conferees of the advisory board: Mr. Floyd Tilford, Mr. J. A. Kimball, Mr. B. L. Thompson.

The other members of the advisory board continue their membership by reason of their several offices: the food and drug analysts, Prof. J. T. Willard, Prof. E. H. S. Bailey and Prof. L. E. Sayre, and the assistant food and drug inspector, Mr. L. A. Congdon.

No further business appearing, the Board, upon motion, adjourned.

The following accounts of the annual meeting in June were audited and allowed:

Clay E. Coburn	\$7.64
O. D. Walker	18.01
Wm. M. Earnest	21.04
B. J. Alexander	11.59
C. H. Lerrigo	5.00
H. L. Aldrich	23.18
J. S. Cummings	22.00
C. H. Ewing	12.00
Jessie T. Orr	16.70
M. O. Locke	10.00
E. H. S. Bailey	3.41
L. E. Sayre	1.88
J. T. Willard	4.08
J. F. Tilford	15.70
Jas. A. Kimball	8.76
B. L. Thompson	7.28

Respectfully submitted.

S. J. CRUMBINE.

**Report of the Secretary at the First Quarterly Meeting of the
State Board of Health,**

Held in the Commercial Club rooms, Fredonia, Kan., October 4 1915.

To the Members of the State Board of Health:

DIVISION OF SANITATION AND COMMUNICABLE DISEASES.

We are glad to report that there has been less illness among the people of the so-called summer diseases, including typhoid fever, during the past summer than there has been for a number of years. At least a review of the reports and the deaths from this class of diseases would seem to indicate that the above statement is correct. The cool and pleasant summer, the great decrease in the prevalence of flies throughout the state, and the gradual but intelligent awakening of the public conscience relative to the prevention of disease, including typhoid vaccination, must be the chief causes of this gratifying decrease.

The Surgeon General of the United States Public Health Service has appointed your secretary collaborating epidemiologist for the state of Kansas for the United States Public Health Service, and through such an appointment we are enabled to use certain methods, together with government franked return post cards, for the collection of data concerning the prevalence of certain reportable diseases, which it is hoped will give us more complete reports than we have hitherto received. The federal authorities have proposed to establish a registration area for morbidity reports, admitting only such states whose morbidity reports come up to a certain standard of completeness. We are making an earnest effort to secure a place for Kansas in the registration area for morbidity reports among the first states chosen. We trust this arrangement will receive your cordial approval.

By reason of an increased appropriation of the legislature for the purchase of antitoxins, serums, bacterins, etc., for the indigent poor of the state, a new agreement has been entered into with the Dr. H. M. Alexander & Co., Marietta, Pa., for stocking diphtheritic antitoxin, typhoid bacterins, small pox virus and tetanus antitoxin in the distributing stations of the state, the stock of smallpox virus and tetanus antitoxin being limited to the larger cities or the county-seat town of each county. These biological products will be sold to the citizens of the state at very greatly reduced prices, and the three first-named products will be furnished to the indigent poor of the state by the State Board of Health, as authorized in the appropriation, upon the fulfillment of certain requirements set forth upon the blanks furnished by the Alexander company. These reduced prices will save to the people and physicians of the state many thousands of dollars annually, and will be the means, no doubt, of saving life among those of our citizens who are not financially able to purchase these products. The state is not required to have any money tied up in stock, and is only called upon to pay for such biologicals as are distributed in accordance with the agreed plan. It is necessary to enter into this agreement at

once, both from financial and prophylactic reasons, and I trust this arrangement may have your approval.

The correspondence with the H. M. Alexander company relative thereto is herewith attached and made a part of this report.

July 21, 1915.

Dr. S. H. Gilliland, President H. M. Alexander & Co., Marietta, Pa.:

DEAR DOCTOR GILLILAND—Replying to your communication of the 12th inst., will say that after having thought the matter over and talked it over with others interested in the department we have come to the following conclusions:

First. That we would like to have you stock, in the manner indicated, the typhoid bacterins at the prices indicated, although I was somewhat disappointed that you did not meet the price of the Mulford people, and, if possible, I would be glad to have you do so, making the hospital size \$1.85. It is rather immaterial from a personal standpoint, but from the standpoint of the state auditor we might have some difficulty in explaining why we should contract to buy a higher-priced article in the face of lower quotations from other parties.

Your suggestions as to having the requisitions on a different colored paper is a good one. The department will very heartily enter into a antityphoid campaign, and we believe there should be a generous movement of the typhoid bacterins.

Second. I do not believe the department is ready to enter into an agreement concerning the tetanus antitoxin. Our funds are not sufficient to undertake the state-wide distribution of an article so expensive. I believe, therefore, we would prefer to handle the tetanus antitoxin in the same manner in which we are handling it now. If you desire to run the risk of distributing the tetanus at one station in each county on your own account, of course, we can find no objection, but it seems to me it would not be profitable to you; and, under our present financial condition we can not agree to distribute this biological excepting in the manner in which we are now handling it.

Third. We would be very glad to have you distribute the smallpox vaccine in the manner indicated in your letter. In your notice to physicians and distributing stations please place special emphasis on the keeping qualities of vaccines, i. e., it is absolutely necessary to keep it in refrigeration in order to be virile.

Fourth. Inasmuch as the United States Public Health Service is furnishing this department, free of cost, cords which we prepare ourselves for free treatment of the indigent poor of this state, we do not feel that we can enter into the proposition of purchasing anything in that line. We will, therefore, have to refuse to consider the Pasteur antirabic proposition.

And, finally, it should be definitely understood that the appropriation made by the legislature for the free distribution, to the indigent poor of the state, of vaccines, serums, etc., is limited to a definite amount, namely, \$2000 a year; that, therefore, our obligations in this plan, including the dispensing of diphtheritic antitoxin, can not and must not exceed the amount appropriated by the legislature. We will try to keep you posted should the above amount seem to be nearing exhaustion, so that distributors may be notified that the State Board of Health may not be able to pay for any more bacteriological products during that particular fiscal year. It is not likely that such will be the case, but I am mentioning the matter now so that there may be a clear understanding that the law specifically prohibits any state official to contract supplies for the state in excess of the appropriation for that purpose.

As soon as your printed literature concerning these matters has been galley proofed will you be good enough to send me a copy?

Trusting the above arrangements may meet with your approval, I am

Sincerely yours,

S. J. CRUMBINE, M. D., *Secretary.*

MARIETTA, PA., July 28, 1915.

Dr. S. J. Crumbine, Secretary Kansas State Board of Health, Topeka, Kan.:

DEAR DOCTOR—I beg to acknowledge your favor of the 21st inst., outlining in detail the conditions under which your Board will accept our proposition of July 12 for the distribution of biological products to the people of Kansas.

"The proposition as changed by your letter above referred to we understand as follows:

Diphtheria antitoxin. We are to proceed with this plan as outlined without any changes.

Typhoid vaccine. We agree to revise the price on the package containing ten complete immunizing treatments from \$2 to \$1.85. This price allows the distributor 20 per cent, and all the other features as set forth in the original proposition.

Tetanus antitoxin. We understand that the State Board of Health is not ready to enter into an agreement of any character relative to the purchase of this product. However, we note that you have no objection to us carrying a supply of this product in some of the principal distributing stations, to be sold at the price named, providing there is a demand for the same. However, we are to create this demand ourselves and are entirely responsible for the risk of distribution. We believe that there will be sufficient demand to warrant us in placing tetanus antitoxin in at least one distributing station in each county.

Smallpox vaccine. The method of distributing smallpox vaccine to be as outlined in our proposition, excepting that we are to draw the attention of both the distributor and the physicians in general to the perishable nature of this product. We do not feel that it is advisable that each and every distributor have a stock of this product on hand at all times, but they are to be informed that in case of demand they can order from us by wire, when we will send them a supply of fresh stock. We will also advise the physicians that smallpox vaccine virus may be obtained through the distributing stations at the special price.

Antirabic vaccine. We understand that you are not in a position to consider the antirabic proposition, inasmuch as you obtain your cords free of cost direct from the United States Public Health Service.

With the above understanding, we will proceed with this plan at once. There will be considerable work connected with the starting of the plan. It will be necessary for us to communicate with all the old distributors and ask them to report the amount of stock they have on hand at the present time, and ask them if they desire to continue as distributors under the new plan. After receiving their acceptance they will be forwarded a stock of diphtheria antitoxin, including a 10,000-unit package, to bring their stock up to an amount which we feel should be carried to meet the demands of that locality. It will also be necessary to furnish them with stickers to revise the prices on the packages of antitoxin they have on hand. All new packages of diphtheria antitoxin will have printed on them the new price as agreed upon in this revision of plan. They will also at the same time be sent a stock of typhoid vaccine, and the selected ones will receive tetanus antitoxin. We do not consider it advisable to stock them with smallpox vaccine, but, as already stated, to inform them to order it from us if they have any demand.

It seems to me that it would be best for your office to furnish the distributors who agree to act under this new plan with the application forms to be used when diphtheria antitoxin or typhoid vaccine is distributed for indigent use. A letter from your office with these forms, setting forth how these two products may be distributed for indigent use, will be much stronger than a letter coming from us. As already suggested, it will be well to have the forms for diphtheria antitoxin and typhoid vaccine on different colored paper. I am informed that hereto-

fore your office has furnished these forms, but if you desire us to have them printed after the copy has received your approval please to command us.

In order to hold the distribution of these products within the appropriation of \$2000 allotted you for indigent purpose, we would suggest that when you find your appropriation becoming exhausted that you will promptly notify us and we will at once send out a letter to each and every distributor telling him that the appropriation for the distribution of diphtheria antitoxin and typhoid vaccine to the indigent has become exhausted, and that they shall not distribute any more until further advised, but may continue to sell as usual.

I do not believe that having tetanus antitoxin in the distributing station will in any way confuse the plan of distribution for indigent use, as the distributor will not have any forms upon which to distribute tetanus antitoxin for indigent use, and again, we will explicitly tell him in our instructions to distributors that no antitoxin is to be distributed for indigent use in which the payment is to be made by the State Board of Health.

Unless we hear from you to the contrary we will take the first steps in starting this plan next Monday, and I will send you at that time a proof of our instructions to the distributing agencies, as well as a letter that we will write to reliable druggists asking them to act as distributors in addition to the distributors we now have. Of course we do not propose to advise the medical profession in general of the plan until after we have the same ready for operation, and it will require some little time to get the distributing stations appointed and stocked.

It is my intention to request the distributor to order additional stock in all cases, where possible, from us in Marietta, but in extreme emergency or where the time is short he may call upon your office at Topeka. I am having prepared a special form in triplicate for such shipments as you may make from Topeka, one copy of this form to be sent to the party receiving the goods, the other copy to be sent to ourselves in order that we may charge the proper distributing station with the goods and credit your stock account, and the third copy of the form to be retained for your files. Of course no tetanus antitoxin will be carried at Topeka and must be ordered direct from Marietta. Again we propose to impress upon the distributor that all exchange of products upon which the guarantee date has expired must be made through the Marietta office.

In further working out this plan, if any points occur to you that you feel will render the plan more efficient I trust you will have no hesitancy in communicating with us, and we will certainly do our best to make the plan simple and efficient and one that will be of value to us from a wider distribution and bring credit upon the State Board of Health for making arrangements by which the people in general may obtain these products at the greatly reduced rates.

We would like to get the plan in full operation before the fall demand. With highest personal regards, I am

Very sincerely,

S. H. GILLILAND,

President H. M. Alexander & Co.

On September 10 the following communication was received from the governor:

Dr. S. J. Crumbine, Secretary, State Board of Health:

DEAR DOCTOR—Captain Pritchard, commanding company G, first infantry, Kansas National Guard, which company was ordered into active service immediately after the flood at Fort Scott, telephoned me to-day that sanitary conditions there were far from satisfactory. He thinks there is great danger of an epidemic of typhoid fever unless the town is cleaned up promptly. It occurred to me that you might communicate with the county or city health officer at Fort Scott.

Very respectfully,

ARTHUR CAPPER, Governor.

On the next day the following reply was sent:

Mr. Arthur Capper, Governor:

MY DEAR GOVERNOR—Replying to your letter of yesterday concerning the sanitary condition of Fort Scott, will say that I had already dispatched our Doctor Sippy to Iola and Fort Scott for investigation of the flood condition and instructed him to offer whatever assistance our department might be able to do in the premises. He has not yet returned, and when he does, if there is anything of importance to report, I will be glad to communicate with you.

Very truly yours, S. J. CRUMBINE, M. D., *Secretary.*

Doctor Sippy will make a detailed report to the Board of the conditions found and suggestions offered, together with a detailed report of the work of his division.

The Wilson county sanitary survey, made by the United States Public Health Service in conjunction with the State Board of Health, has been about completed, and this completion will be celebrated by a great public health demonstration to be held in Fredonia on October 5, to be known as sanitation day. In order that the State Board of Health might participate in this celebration the quarterly meeting is called for Fredonia. It is designed to follow up this work in the not distant future by a public health educational campaign in every city and district school in the county, showing moving pictures, the stereopticon, and giving public health lectures suited to the occasion. This latter feature will be conducted by the State Board of Health. It is believed when the survey has been finally finished it will be the most complete and exhaustive of any made in any county in the United States, and it is sincerely hoped that corresponding results will be obtained.

DIVISION OF FOODS AND DRUGS.

The work of this division has progressed in the usual way, the one important feature of the work being a coöperative and intensive milk campaign in the two Kansas Cities, between the Missouri authorities, the city authorities of the two Kansas Cities, the federal government and the Kansas officials. Two of our inspectors were kept in this work for five weeks and a large number of samples of milk secured and analyzed, dairies inspected, hearings held where milk was found to be adulterated or dirty, and thirteen prosecutions filed. It is believed that this milk campaign is probably the most exhaustive one that has ever taken place in the West, and should result in very great benefit to the consumers of this important food product in the community served.

Your secretary attended the nineteenth annual convention of the Association of American Dairy, Food and Drug Officials, at Berkeley, Cal., August 2 to 5, inclusive. The convention was not large, but excellent addresses were made, and the president's recommendation for a working association the year around was adopted. The following resolutions were adopted:

Resolved, That this association express its thanks to the press for their coöperation and for the liberal reports of its proceedings.

Resolved, That the members of this association express their most sincere thanks to the officers of the association for the splendid program, and to the president, Dr. S. J. Crumbine, for the courteous manner in which he has conducted the several sessions of this convention.

Resolved, That this association express its thanks to the honorable Secretary of Agriculture for the efforts and accomplishments that are being made through his department to secure a more efficient coöperation between the federal and state departments, and along this line to heartily indorse the work of Dr. Carl L. Alsberg and of Dr. J. S. Abbott, who are doing all in their power to make possible such coöperation.

Resolved, That we heartily indorse and commend the work of the national dairy show being held each year in Chicago; that we especially urge the attendance of commissioners, inspectors and others interested, recognizing as we do that this is a great school of instruction.

Resolved, That it is the opinion of this association that the physical examination of all persons who handle food products is essentially necessary if the safety of such products can be absolutely assured.

Resolved, That the Association of American Dairy, Food and Drug Officials, noting the growth of the interest in the campaign of education on behalf of the metric system, recognizing the needs for further information with regard to its use as standard of weights and measures in this country, recommend that this association appoint a committee of five to coöperate with other national bodies in promoting such an educational campaign.

Resolved, That this association earnestly favors the establishment of uniform regulations in the various states, and, where necessary, the enactment of additional and uniform statutes that will more effectively apply the principles and requirements of our food-control laws to hotels, restaurants, cafes and all public eating places, to the end that the use of all adulterated foods may be prohibited and also that the service or sale of substitutes or imitation foods of all kinds whatsoever without notice to patrons or guests may be effectively prevented and that the wholesomeness of foods and the health of the consumers be safeguarded by reasonable and effective sanitary and hygienic requirements.

WHEREAS, It is as much the duty of this association to commend to public confidence all food products which are pure and wholesome as to condemn food products which are impure and unwholesome; and

WHEREAS, We believe that certain publicity methods now being employed to exploit the opinions on food subjects, by self-appointed apostles of reform, who, under the guise of scientists or food experts, mislead and deceive the public into false conceptions of food values and food quality: now, therefore, be it

Resolved, That we condemn such methods as reprehensible, and as an illegitimate use of the machinery of a pure-food propaganda, for the private and personal gain of their promoters.

WHEREAS, The importation from foreign countries and the shipment in interstate commerce of immature citrus fruit, particularly oranges and grapefruit (pomelos), which have been artificially colored, thus fraudulently simulating maturity, or ripeness; and

WHEREAS, Evidence has been adduced showing that such oranges and grapefruit (pomelos) do not change in sugar or acid content, and do not ripen or mature after removal from the tree; and

WHEREAS, There is evidence to show that the consumption of such immature oranges and grapefruit (pomelos), especially by children, is apt to be attended by a serious disturbance of the digestive system; and

WHEREAS, The importation of and shipment of such artificially colored, immature and unwholesome and deleterious oranges and grapefruit (pomelos) has prevailed to a large extent during recent years: therefore, be it

Resolved, That the tentative standard adopted by the national authorities, which "considers California oranges to be immature if the juice does not contain soluble solids equal to or in excess of eight parts to every part of acid contained in the juice, the acidity of the juice to be

calculated as citric acid without water of crystallization," be adopted for all oranges, foreign and domestic, until modified or changed by the national authorities.

Be it further resolved, That a tentative standard for all imported and domestic grapefruit (pomelos) as follows be adopted: All grapefruit (pomelos) shall be considered immature if the juice does not contain soluble solids equal to or in excess of seven parts to every part of acid contained in the juice, the acidity of the juice to be calculated as citric acid without water of crystallization.

Be it further resolved, That the Bureau of Chemistry of the United States Department of Agriculture, the state chemists of all citrus-growing states, and the chemists of the agricultural experiment stations of all citrus-growing states, be requested to continue the study of the chemical composition of mature and immature oranges and grapefruit (pomelos), and to devise and report to the national pure-food authorities, the joint committee of standards and the various state pure-food officials their findings, with a recommendation of such permanent standards as they may find to be equitable, fair and just, at the earliest possible time consistent with careful and intelligent study of the problem.

WHEREAS, It is the great effort of the officials composing this association to prevent the deception of the people regarding the foods and drugs they buy; and

WHEREAS, The food and drug laws only prevent deception labels, and do not prevent deception by newspaper advertising, circulars and other printed matter, as well as deception demonstrations which may be put directly before the consumer: therefore, be it,

Resolved, That this association indorse the enactment by the government of false advertising laws, which punish adequately all forms of false advertising of foods and drugs.

Be it further resolved, That this association, through its officers, will coöperate with all proper movements to secure a higher standard of truth in all forms of advertising or demonstration which relates to food and drugs.

WHEREAS, It has been the pleasure of those who made this trip together from Chicago to enjoy special arrangements for our comfort by the Santa Fe Railroad system, and also by the Harvey Eating-house system for our meals and entertainment: therefore, be it

Resolved, That this association extend a vote of thanks to the Santa Fe Railroad Company, its agents and employees, and the Harvey Eating-house system, Mr. Benjamin, his associates and employees.

Mr. Congdon will give a detailed report of the work of this division.

DIVISION OF VITAL STATISTICS.

There are no special matters to report for this division outside of the ordinary. Miss Laura Neiswanger, whose employment was authorized by the Board at its annual meeting, to serve jointly the Division of Vital Statistics and the Division of Child Hygiene, will assume her duties on the 18th. of October. It is confidently believed that the work of both of these divisions will be greatly aided and the state efficiently served by the employment of Miss Neiswanger.

Mr. Deacon will give detailed report of the work of his division.

DIVISION OF WATER AND SEWAGE.

The recurring high waters and floods throughout various parts of the state during the summer have been the cause of frequent and gross pollution of a number of the city water supplies of the state, which has added enormously to the work of this division. Incidentally these trou-

blesome visitations of providence have also stimulated the action of procrastinating and derelict cities toward ascertaining information for the improvement of their water supply, which proves the old adage "it is an ill wind that blows nobody good."

The water and sewage laboratory has been running on "forced draft," trying to keep up with the ever-increasing demand made upon it through the operation of the water and sewage law and more recent water analysis law, the rules and regulations of which you approved at your last annual meeting.

Our engineer and director of the laboratory will make detailed reports concerning the work during the past quarter.

DIVISION OF CHILD HYGIENE.

Marked progress has been made in the educational program for the care of babies and prevention of diseases as contemplated in the law creating the Division of Child Hygiene. The activities of this our newest division has only been limited by our appropriation. We believe that great progress is being made in arousing the interest of the people in the welfare of the most important asset of the state, namely, the child.

Doctor DeVilbiss will give a detailed report of the activities of her division.

DIVISION OF PUBLIC HEALTH EDUCATION.

The work of this division is naturally more or less related to all other divisions of the Board's activities, and more and more is engaging the attention, not only of the Kansas State Board of Health, but of all boards of health who have had a vision of the new public health. The very meat and essence of prevention lies in popular and widespread education of the people, and it is coming to be generally admitted that the chief function of a state board of health should be that of public-health education.

The regular monthly publications of the Board, together with special bulletins, press articles, public lectures, moving pictures, stereopticon slides and regular lecture courses have been the means of spreading the gospel of health throughout the state.

The past year or two there has been an increasing demand for public health nurses. Some eight or ten cities of the state having established the public-health nursing system, thus we are called upon to supply such nurses, and we find ourselves unable to meet the demand. This demand has given birth to the idea of establishing a school of public health education. Accordingly, the following tentative program has been announced, which is herewith given as a part of the report and which we trust will meet with your hearty approval:

STATE BOARD OF HEALTH,
TOPEKA, September 17, 1915.

DEAR SIR—Enclosed you will find the tentative announcement of the Kansas School for Public Health Education, with a list of instructors proposed by the committee on organization. I should be very grateful if you will advise me at your earliest convenience the acceptance as an instructor, and the exact title of your address or addresses, as the case may be.

There is a growing demand for the education of public-health nurses in this state and adjoining states, some eight or ten Kansas towns having already established the public health nursing system. It has been necessary to send outside the state to furnish nurses for the increasing demand for this class of work, and it is thought that the above outline might be the beginning of what may develop into a regular school for public-health education.

We sincerely trust that you may be in sympathy with this movement to the extent of volunteering your services as indicated in the announcement. I am, Sincerely yours, S. J. CRUMBINE, M. D., *Secretary*.

KANSAS SCHOOL OF PUBLIC HEALTH EDUCATION.

TENTATIVE ANNOUNCEMENT.

The Kansas State Board of Health, in conjunction with the University of Kansas, announces the organization of a School of Public Health Education, giving a course of sixty lectures during the winter from October 11, 1915, to May 1, 1916, two lectures to be given each Monday afternoon at 1:30 and 2:30 o'clock.

While primarily designed for the staff of the State Board of Health and the Topeka Public Health Nursing Association, all public-health nurses, or nurses contemplating entering this field, teachers, social workers and students of these subjects, and all other persons interested in public health or public welfare work, and cordially invited to attend any or all of these lectures. Opportunities for clinical, field and social work will be afforded in conjunction with the Topeka Public Health Nursing Association.

A certificate of attendance will be issued to those who present evidence of adequate preliminary education and satisfactorily complete all of the work assigned to them, but the lectures will be open to all who may desire to attend them.

The work of the school will be entirely under the direction of S. J. Crumbine, M. D., secretary of the State Board of Health and dean of the School of Medicine, University of Kansas, assisted by the following council: Dr. Frank Strong, chancellor; Dr. John J. Sippy, Dr. M. T. Sudler, Mrs. Chas. B. Thomas, Miss Hinch.

Enrollment should be made prior to October 2, 1915, and all communications in regard to the course should be addressed to Dr. S. J. Crumbine, secretary of the State Board of Health, or to Stewart G. Thompson, assistant state registrar, who will act as registrar for the school.

There will be no fees charged for any of these lectures. Lectures will be given in the offices of the State Board of Health. Students will be required to supply themselves with note book and to do such reading and prepare such work as may be assigned to them.

Minutes of the First Quarterly Meeting of the State Board of Health,

Held in the Commercial Club rooms at Fredonia, Kan., October 4, 1915.

The first quarterly meeting of the State Board of Health convened in the Commercial Club rooms at Fredonia, Kan., October 4, 1915.

Upon roll call, all the members of the Board were present excepting Doctors Orr and Alexander, and all the members of the advisory board were present excepting Doctors Magee and Greenfield and Professors Willard and Blackmar.

The minutes of the annual meeting were then read and, upon motion, adopted as read, and ordered placed on file.

The report of the secretary was read. Upon motion, the report was unanimously adopted, including the recommendations therein, viz.: The appointment of the secretary as collaborating epidemiologist of the United States Public Health Service for the state of Kansas; the agreement entered into with the H. M. Alexander company, of Marietta, Pa., concerning the distribution of diphtheritic antitoxin, typhobacterins, small-pox vaccine and antirabic vaccine; the adoption of the resolutions passed by the Association of American Dairy, Food and Drug Officials at their last annual meeting at Berkeley, Cal., and the establishment of the Kansas School for Public Health Education.

The report of the engineer was then read, and after discussion of the same, upon motion, the attorney for the Board, Mr. Lock, and the engineer were instructed to draw up orders in conformity with the recommendation of the engineer on the cities of Caldwell, Caney, Paola, Cedar Vale, La Harpe and Marion to improve their water supplies. Whereupon the following resolutions were submitted and unanimously adopted:

FREDONIA, KAN., October 4, 1915.

WHEREAS, The city of Paola is supplying a quality of water which most of the time is neither pure nor wholesome and is prejudicial to the health of the users of the water supplied in the said city; and

WHEREAS, The piping of the pumping system is so arranged that water may be pumped direct from the river to the users of water in the city of Paola without passing through a settling basin; and

WHEREAS, This matter has been called to the attention of the authorities of said city from time to time:

Now therefore, by virtue of the authority vested in the State Board of Health under the laws of the state of Kansas, it is ordered that the city of Paola install a plant for properly treating the water by filtration, sterilization, or other means approved by the State Board of Health, on or before February 1, 1916, and that on or before that date the piping of the pumping system be rearranged so that water for domestic use can not be pumped directly to the city from the river.

FREDONIA, KAN., October 4, 1915.

WHEREAS, The City of Cedar Vale is supplying water for domestic uses from Caney creek not adequately treated, impure and unwholesome and dangerous to the health of consumers; and

WHEREAS, This matter has been brought to the attention of the authorities of the city of Cedar Vale for some time past:

Now therefore, by virtue of the authority vested in the State Board of Health under the laws of the state of Kansas, it is ordered that the city of Cedar Vale install temporary apparatus for sterilizing the water supply on or before December 1, 1915, and that the said city install a permanent plant for properly treating the water by filtration, or other means approved by the State Board of Health, on or before January 1, 1917.

FREDONIA, KAN., October 4, 1915.

WHEREAS, The city of La Harpe is supplying water for domestic uses from Elm creek not adequately treated, impure and unwholesome and dangerous to the health of consumers; and

WHEREAS, This matter has been brought to the attention of the authorities of the city of La Harpe for some time past:

Now therefore, by virtue of the authority vested in the State Board of Health under the laws of the State of Kansas, it is ordered that the city of La Harpe install temporary apparatus for sterilizing the water supply on or before December 1, 1915, and that the said city install a permanent plant for properly treating the water by filtration, or other means approved by the State Board of Health, on or before January 1, 1917.

FREDONIA, KAN., October 4, 1915.

WHEREAS, The water supplied the consumers in the city of Marion is impure and unwholesome and injurious to the health of the users thereof; and

WHEREAS, This condition has been called to the attention of the authorities of the city of Marion for some time past:

Therefore, by virtue of the authority vested in the State Board of Health under the laws of the state of Kansas, the city of Marion is hereby ordered to install a temporary sterilization plant within thirty days from the date of this order and to build a permanent filtration or sterilizing plant, or improve its water supply in some other method approved by the State Board of Health, on or before the first day of January, 1917.

FREDONIA, KAN., October 4, 1915.

WHEREAS, The city of Caldwell is supplying water for domestic use from Bluff creek, which is impure and unwholesome and is dangerous to the health of the users thereof in the city of Caldwell; and

WHEREAS, This matter has been called to the attention of the authorities of the city of Caldwell:

Therefore, by virtue of the authority vested in the State Board of Health under the laws of the state of Kansas, it is ordered that the city of Caldwell install a plant for properly treating the water by filtration, sterilization, or other means approved by the State Board of Health, on or before July 1, 1916, or on or before that date that the city furnish a sufficient supply of ground water, the quality of which shall be satisfactory to the State Board of Health.

FREDONIA, KAN., October 4, 1915.

WHEREAS, The city of Caney is supplying water for domestic uses from Caney creek not adequately treated, impure and unwholesome and dangerous to the health of consumers; and

WHEREAS, This matter has been brought to the attention of the authorities of the city of Caney for some time past:

Now therefore, by virtue of the authority vested in the State Board of Health under the laws of the state of Kansas, it is ordered that the city of Caney install temporary apparatus for sterilizing the water supply on or before December 1, 1915, and that the said city install a permanent plant for properly treating the water by filtration, or other means approved by the State Board of Health, on or before January 1, 1917.

The director of the water and sewage laboratory of the Board of Health, Professor Young, then made his report, and, upon motion, the director was ordered to refund \$20 to the city of La Harpe, representing the amount overpaid on the fees charged for analysis of city water.

On motion, the sum of \$5 was remitted to the city of El Dorado as an amount in excess of that charged to the city by reason of improper rate applied to present population.

Upon motion, the following regulations pertaining to the analysis of ice supplies were unanimously approved and ordered to be published in the official state paper:

RULES AND REGULATIONS COVERING COLLECTION OF SAMPLES AND ANALYSIS OF ICE FOR DOMESTIC CONSUMPTION.

1. Corporations or individuals selling artificial ice for domestic consumption shall submit to the water and sewage laboratory of the State Board of Health complete information concerning the source of water supply used for the manufacture of the ice and a detailed description of the process involved.

2. A fifty-pound cake of ice manufactured shall be shipped to the water and sewage laboratory of the State Board of Health, Lawrence, Kan., each year for complete analysis. Results of these analyses shall be reported to the person whose name is signed to the information sheet and to the secretary of the State Board of Health.

3. Artificial ice shall contain less than 100 bacteria per cubic centimeter and no organisms of the *Bacillus coli* group in one cubic centimeter. If the ice does not meet these requirements it shall be sold for refrigeration purposes only and not for domestic consumption.

4. Corporations or individuals harvesting natural ice shall file full information with the water and sewage laboratory of the State Board of Health with regard to the source of the ice and method of storage.

5. A fifty-pound cake of the ice shall be shipped to the water and sewage laboratory of the State Board of Health during March or April each year for complete analysis.

6. Natural ice properly stored shall contain less than 100 bacteria per cubic centimeter and no organisms of the *Bacillus coli* group in one cubic centimeter. If the ice does not meet these requirements it shall be sold for refrigeration purposes only and not for domestic consumption.

7. County health officers shall furnish the water and sewage laboratory of the State Board of Health with lists of ice dealers in their districts.

8. Fees for the services rendered under these rules and regulations pertaining to ice supplies shall be payable by the manufacturer or owner of the ice plant January 1 of each year to the director of the water and sewage laboratory of the State Board of Health at the University of Kansas, Lawrence, Kan.

9. Fee shall be \$15 annually for each source of supply of ice which is sold for domestic consumption.

Professor Bailey, food analyst for the Board, then made an oral report of the activities of the food laboratories.

Professor Sayre, drug analyst for the Board, made a report of the activities of the drug laboratories, and after a general discussion the following motion was unanimously adopted:

Resolved, That the secretary request the director of the drug laboratory to submit to the State Board of Health a report on the status of the so-called "patent medicines" at its next quarterly meeting. For this report he may call to his aid any member of the State Board of Health or any assistance he may obtain elsewhere.

The report of the Division of Vital Statistics was then read by the secretary in the absence of the state registrar, Mr. Deacon, and was ordered to be placed on file.

The report of the Division of Child Hygiene was also read by the secretary in the absence of the chief of that division, Doctor DeVilbiss, and ordered to be placed on file.

Adjournment was then taken until 8 p. m.

The Board met at the Commercial Club rooms in Fredonia at 8 p. m., October 4, 1915, in an adjourned meeting.

The report of the assistant chief food and drug inspector, Mr. Congdon, was then read and ordered to be placed on file.

Doctor Sippy, epidemiologist, then made the report of the Division of Communicable Diseases and Sanitation, which was ordered placed on file.

Doctor Lerrigo read a report of the sanitary inspection of the State Normal School and the College of Emporia, which was accepted and ordered placed on file.

The standards committee made a report indicating that no special standards or regulations were before the committee for action at the present meeting.

Upon motion, the committee authorized to report upon a revision of the State Board rules and regulations were continued, with a request to make a report at the next quarterly meeting.

Dr. J. W. Kerr, Assistant Surgeon General of the United States Public Health Service, being present, addressed the Board in outlining the activities of the service in relation to state boards of health, and offering words of encouragement.

There being no further business, the Board adjourned.

The following bills were audited and allowed:

Dr. C. H. Lerrigo	\$22.99
Dr. O. D. Walker	25.43
Dr. J. S. Cummings	18.54
Dr. Clay E. Coburn	18.42
Dr. John J. Sippy	19.03
Dr. W. M. Earnest	30.51
Dr. C. H. Ewing	20.66
Dr. H. L. Aldrich	9.61
Prof. L. E. Sayre	10.44
Prof. E. H. S. Bailey	7.63
Prof. C. C. Young	14.61
Prof. Fred R. Hesser	11.61
Mr. L. A. Congdon	8.09
Mr. M. O. Lock	21.75

Report of the Secretary at the Second Quarterly Meeting of the State Board of Health,

Held in the offices of the secretary, in Topeka, December 17, 1913.

To the Members of the State Board of Health:

Nothing unusual or out of the ordinary has transpired since the last quarterly meeting of the Board, and the work of the various divisions of the department has proceeded in a satisfactory way.

DIVISION OF VITAL STATISTICS.

The death returns for three months of the current year have been checked up by the Bureau of the Census for the purpose of determining whether or not 90 per cent of the deaths were being reported, this per cent being the minimum standard which will either admit a state to what is known as the "registration area" or permit it to continue in such area.

We have been convinced that the percentage was well within the requirement, but we were hardly prepared to claim the high percentage which the check has actually revealed. This check was so thorough and efficient as to leave no doubt in the minds of the federal inspector and the officials of this division but what Kansas reports are as complete, if not more complete, than the reports of any other state in the Union, the percentage of efficiency as determined by this check being 99.6.

Since the last meeting Mr. Deacon, with two of his helpers, has made a thorough survey of Linn county, with satisfactory results.

It is a matter of pride to the department and special congratulation to the chief of the division that we now know what we had hitherto suspected—that the work of this division is being carried on in a very efficient manner. The registrar will give a detailed report of the work of this division for the current quarter.

DIVISION OF WATER AND SEWAGE.

The Division of Water and Sewage, including the water and sewage laboratories, has been doing an enormous amount of work since our last meeting. The new law requiring the analysis of domestic water supplies, together with that of bottled waters and waters used upon trains for domestic consumption, has kept the laboratories exceedingly busy, and the current work of investigating water and sewage plants has been of more than usual urgency and interest.

Professor Haskins will make a detailed report of the engineering work of this division, and Professor Young of the laboratory work.

Recently application has been made to this division by the commissioners of the city of Wichita to assist them in working out their problem of the proper disposal of industrial wastes from the packing plants of that city. It is the purpose of the division to make a study of this waste at the earliest possible date.

DIVISION OF COMMUNICABLE DISEASES AND SANITATION.

The chief of this division has been overburdened with work. It is impossible for him to respond to all the calls made on the department in the shape of investigation of epidemics and questions of sanitation that constantly arise. The time is already here when this division should have, in addition to an epidemiologist, at least one medical inspector, whose time could be fully utilized on the road in answer to calls for assistance along this line.

One of the gratifying conditions worthy of note and record is the fact that typhoid fever has greatly decreased in the state during the past year; indeed, the first decrease that has been noted for a number of years. It is confidently hoped that the special efforts being put forth by the State Board of Health, through its divisions of water and sewage, communicable disease, sanitation and public health education, will make this decrease a permanent one, steadily decreasing the incidence of typhoid fever in the years to come.

Diphtheria has been rather widely prevalent during the past two months, which seems to be an occurrence every year at this particular time. Coincident with the opening of all the public schools in the state we can expect an increase in diphtheria, and we seem never to be mistaken in such expectation.

The revised methods for the distribution of diphtheritic antitoxin, together with the other biological products distributed by the State Board of Health, have largely increased the distribution of these products, so that we find our bill for the month of November in payment for the biological products distributed is the largest bill ever audited for such purposes in this department.

The growing practice of immunizing against typhoid fever, and the method of release from quarantine in diphtheria, namely, upon two negative cultures only, together with the early use of immunizing doses for those exposed, will probably increase the sale of biological products, but will at the same time decrease the amount of morbidity and mortality from these malignant diseases.

Perhaps the most remarkable occurrence related to the work of this division was that of a case of human foot and mouth disease occurring in Ellsworth county. When the case was first suspected by Doctor O'Donnell, the health officer, as being one of foot and mouth disease, I requested Dr. Richard Sutton, one of the most distinguished dermatologists in the West, to go to Ellsworth to make an investigation. This he kindly did, and reported back that the case was undoubtedly one of foot and mouth disease. Subsequently the secretary, in company with a member of the Board, Doctor Walker, visited the case, and according to the symptoms laid down in the literature on the subject, as well as reasoning by exclusion, the diagnosis has seemed to be correct. The case was reported by wire to the Surgeon General of the United States Public Health Service. Nothing was heard from the Public Health Service, but when the Bureau of Animal Industry of the United States Department of Agriculture heard of the case they lost no time in dispatching a trained veterinarian to make an investigation as to the possibilities of

cattle or other stock becoming infected. I was so much surprised with the promptness and efficiency of the Bureau of Animal Industry that I was led to ask the question of the federal representative, in the presence of Doctor Walker, if it was possible that the federal government had not heard that we had over a thousand people die from tuberculosis and about 4000 babies die before they were two years old in Kansas this year, and if activity in the matter of endangering members of the animal kingdom indicated that the government was greatly interested in the welfare of the community? My question remains unanswered. The latest report from the county health officer indicates the case is recovering, and that it has been impossible to trace the source of infection, no known cases among animals having yet been discovered in that community.

DIVISION OF FOOD AND DRUGS.

The most notable occurrence in this division is, perhaps, the efforts of the division to stop or to regulate the sale of immature fruits which always come on the markets during the early fall months. This is increasingly and particularly true in the case of grapefruit and oranges. Growers are exceedingly desirous of having their product on the market first in order to obtain better prices, so they have devised numerous means whereby grapefruit is made to appear to be ripe by the so-called artificial ripening process. While these processes produce a yellow or ripened look to the rind of the fruit, yet as a matter of fact the fruit is not ripened, and thus the consumers are deceived, if not injured in health thereby.

Seizures were made of a carload of grapefruit coming to Topeka for distribution, but owing to lack of support from the federal government the fruit had to be released for sale under the condition that each box be stamped "immature fruit." We hope by another season to have problems connected with the artificial ripening and sale of immature fruit so thoroughly worked out as to have the support of the federal government in the regulation of the same.

Milk ordinances have been passed by several cities in the state through the coöperation of this division.

Mr. Congdon will give a detailed report of the work of this division.

DIVISION OF CHILD HYGIENE.

The work of this division has been of increasing importance and interest under the able supervision of the chief, Doctor DeVilbiss. Perhaps the most notable event since the last meeting was the "Baby Week" conducted in Topeka early in October. This division, too, finds itself hampered by lack of funds.

Doctor DeVilbiss will give a detailed account of the work of this division for the past quarter.

DIVISION OF PUBLIC HEALTH EDUCATION.

The School for Public Health Education started with its opening lecture on October 11, and has an enrollment at the present time of forty-five, the majority of which are registered graduate nurses. We had thought that if we would have six or eight persons take the course it

would justify itself. You can imagine, therefore, our great gratification and surprise at the large enrollment. The average attendance every week from the opening date to the present has been thirty-six.

The social and clinical field work for those graduate nurses who desire to fit themselves as public health nurses is given in a splendid way by the Topeka Public Health Nursing Association, under the able supervision of Miss Lacy, recently of New York city.

We shall no longer be obliged to send to eastern cities or states for public health or visiting nurses, but with our own Kansas girls, who understand Kansas people and can talk the Kansas language, much better results can be expected.

There has been a very heavy and increasing demand for public health lectures which has been met by the various workers of the department.

The closing chapter in the Wilson county survey has been made by showing in every city of the county a moving-picture film graphically portraying a typhoid-fever story.

It is coming to be believed that the chief work of the State Board of Health should be that of popular public health education, and thus the work of this division is becoming of increasing importance as the days go by. Respectfully submitted. S. J. CRUMBINE, M. D., *Secretary*.

Minutes of the Second Quarterly Meeting of the State Board of Health,

Held in the offices of the secretary, Topeka, Kan., December 17, 1915.

The State Board of Health met in quarterly session at the offices of the secretary, Topeka, December 17, 1915. Upon roll call, six members of the Board, a quorum, were present, namely, Doctors Aldrich, Alexander, Coburn, Lerrigo, Orr, and the attorney, Mr. Lock.

Upon roll call, the following members of the advisory board were present: Professors Willard, Sayre, Haskins, Young and Doctors Greenfield and Sippy. Mr. J. F. Tilford, of the conferees, was also present.

The minutes of the first quarterly meeting were then read and approved and ordered placed on file.

The secretary read the quarterly report, which was approved and ordered placed on file.

The engineer for the Board made his report, which, upon motion, was adopted.

Upon motion, the time limit in the order to the city of Caney for the installation of a temporary apparatus for sterilizing its water supply, which was fixed to be on or before December 1, 1915, was extended until January 1, 1917, provided the city made an effort to install a permanent filtration plant for purifying its water by filtration before July 1, 1916.

Professor Sayre then read his report on the status of patent medicines, whereupon the following resolution was adopted:

Assuming that some kind of coöperation between pharmacists and physicians is desirable toward constructive legislation: Therefore, be it *Resolved*, That at the next meeting of the Kansas Pharmaceutical As-

sociation, to be held in Kansas City, May 16 to 17, something like the following communication be sent as one from the Board of Health, namely: That the Kansas Pharmaceutical Association be requested to appoint a committee of not less than five to confer with the Board of Health regarding some constructive legislation bearing upon patent medicines. That this legislation should look toward, in the near future, requiring the name of the essential ingredients of the article sold as package ready-made remedies to be recorded in a manner corresponding to the Canadian law, the New York law, or the regulation by the British Pharmaceutical Conference.

That Mr. J. F. Tilford be one of a committee to present this communication to the Kansas Pharmaceutical Association.

The report of the director of the laboratory, Prof. C. C. Young, was then read and approved.

The report of the epidemiologist, Doctor Sippy, was then read, and, upon motion, the Board authorized the Division of Sanitation and Communicable Diseases to coöperate in a Leavenworth survey, with a limit of expense not to exceed \$100.

Doctor Sippy then presented certain revised regulations pertaining to quarantine measures, and after some discussion, by motion, it was ordered that the proposed revised regulations be printed and a copy sent to each member of the Board at an early date, the same to be taken up for consideration at the next quarterly meeting.

Upon motion, the committee appointed by the Board for the revision of the State Board rules and regulations was enlarged by adding the name of Dr. Harold B. Wood, city health officer, Topeka, to the committee as an advisory member thereof.

The bacteriologist, Doctor Greenfield, then made an oral report of the department of bacteriology.

Doctor DeVilbiss submitted her report for the Division of Child Hygiene for the second quarter, and upon motion her recommendation that a Kansas Child Hygiene Commission be created was adopted, the said commission to be composed of the dean of the rural extension department of the State Agricultural College, Dean Johnson; Mrs. Cora B. Lewis, member of the State Board of Educational Institutions; Mrs. Hoffman, representing the women's clubs; Doctor DeVilbiss, chief of the Division of Child Hygiene, and Doctor S. J. Crumbine, secretary of the State Board of Health.

Legal representatives of a number of Kansas railway companies at this point entered their protest against that portion of the recent regulations pertaining to the payment of fees for the analyses of water used upon railroads, which was listened to with courteous attention by the members of the Board.

By common consent the Board instructed the engineer to submit to the Board at its next quarterly meeting a list of towns in which the water served to the railway companies was pure and wholesome, and was served on railroad trains in such a way as to insure the safety of the water supply thus served, and which was unconnected in any way with other sources of supply.

The Board expressed a desire to treat the railroads fairly in the

matter of fees, keeping in mind the first requisite, the protection of the public health.

The engineer was further directed to submit to the Board a revision of fees which might be made necessary by the elimination of such towns in which fees for a second analysis would not be required after the first inspection had been made.

The report of the assistant chief food and drug inspector, Mr. Congdon, was then read and ordered placed on file.

The report of the state registrar, Mr. Deacon, was then read and ordered placed on file.

No further business appearing, the Board upon motion, adjourned.

The following bills were audited and allowed:

C. H. Lerrigo, M. D.	\$5.00
H. L. Aldrich, M. D.	25.08
Clay E. Coburn, M. D.	7.64
B. J. Alexander, M. D.	10.14
L. E. Sayre, Ph. M.	3.90
M. O. Locke, attorney	5.00
J. T. Willard, M. S.	6.01
W. M. Earnest, M. D., Odd Fellows' Home.....	15.31
Jessie T. Orr, M. D.	17.68
C. A. Haskins, engineer	2.78

Report of the Secretary at the Third Quarterly Meeting of the State Board of Health,

Held in the offices of the secretary, in Topeka, Kan., March 20, 1916.

To the Members of the Board:

No special matters of great importance have occurred since our last quarterly meeting. The work of the various divisions has gone forward with much the same volume and the same efficiency as hitherto.

DIVISION OF COMMUNICABLE DISEASES AND SANITATION.

Early in January the health officer of Gove county came to Topeka and urged that this department take some immediate action to force the officials of Grainfield in that county to comply with the quarantine law in relation to smallpox, former complaints having been made by the health officer, and a number of complaints having been registered with this department by residents of Grainfield. It was thought nothing short of drastic action would bring about such compliance with the quarantine law as would insure adequate protection to the public, the health officer alleging that some twenty-odd cases had spread to the country districts by reason of lax quarantine in Grainfield. Accordingly, the following telegram was sent to the mayor:

JANUARY 6, 1916.

J. W. McDowell, Mayor, Grainfield, Kan.:

Unless I can have your assurance by three p. m. to-day that every case of smallpox in your city is quarantined and that quarantine will be strictly enforced, I will institute quarantine over your city, cutting off railroad facilities and ask attorney-general to assume legal control.

S. J. CRUMBINE, M. D., *Secretary.*

In a few hours reply was received from the mayor as follows:

GRAINFIELD, KAN., January 6, 1916.

Dr. S. J. Crumbine, Topeka, Kan.:

I assure you that all cases of smallpox will be kept under strict quarantine and the quarantine law will be strictly enforced.

J. W. McDOWELL, Mayor.

Whereupon the health officer was advised by telegram as follows:

JANUARY 6, 1916.

Dr. D. R. Stoner, Quinter, Kan.:

Have assurances from mayor that quarantine will be observed. If not, notify me and lid will go on.

CRUMBINE.

Subsequent reports from this district show that the pledge of the mayor was scrupulously observed.

The new methods adopted for the distribution of antitoxins, vaccines, serums, etc., have worked so well that we suddenly found our appropriation of \$2000 a year for the distribution of these biological products had been entirely exhausted, whereupon Dr. H. M. Alexander & Co., was sent the following telegram:

TOPEKA, KAN., March 15, 1916.

H. M. Alexander & Co., Marietta, Pa.:

Antitoxin fund exhausted. Notify dealers. Letter explanation follows.

S. J. CRUMBINE, Secretary.

At the same time the following letter was sent to all local health officers:

STATE BOARD OF HEALTH,
TOPEKA, March 16, 1916.

To County and City Health Officers:

The appropriation for the distribution of antitoxins, vaccines, serums, etc., for the current fiscal year is entirely exhausted. You are, therefore, advised that from this date the state can not furnish to the indigent poor, or any other person, the above biological products free until after July 1.

Where it is necessary to provide such products for the prevention or suppression of epidemics you will be obliged to do so by making arrangements with the proper county or city authorities for paying for the same. Under no circumstances can the state pay for any other products thus used during the current fiscal year.

Very truly yours, S. J. CRUMBINE, M. D., Secretary.

It is quite evident that the appropriation for the distribution of these important products should be very largely increased by the next legislature. My request to the last legislature was for an appropriation of \$5000; they saw fit to give us but \$2000.

DIVISION OF WATER AND SEWAGE.

Some matters of importance have come up in this division which seemed to necessitate a visit outside of the state by the engineer for the purpose of investigation. Accordingly the trips for such investigation were approved by the governor, which included a trip to Chicago and Milwaukee to investigate the treatment of packing-house waste, the engineer being accompanied by the director of the water laboratory, Professor Young; also a trip by the engineer to Des Moines, Iowa, to meet with representatives of the Iowa state board of health and city

officials of certain municipalities relating to the patent rights of the Cameron Septic Tank Company.

Professor Haskins and Young will make detailed reports of the work in this division.

DIVISION OF FOOD AND DRUGS.

No special work of unusual interest has occurred in this division, save the meeting of the standards committee, which will make their recommendations as a committee report.

Mr. Congdon will give report of the detailed work of the division during the past quarter.

DIVISION OF CHILD HYGIENE.

The director of this division has been exceedingly busy during the past quarter, especially during "Baby Week," which was the week beginning March 5.

The state is being aroused from one end to the other with the importance of the conservation of the child and the reduction of infant mortality.

Doctor DeVilbiss will give detailed report of the work of this division.

STANDARDIZING STATE BOARD OF HEALTH WORK.

The findings in the survey of state boards of health by Doctor Chapin, representing the Council of Public Health and Instruction of the A. M. A., has just been published, and a copy of the findings sent to every state board of health.

It is gratifying to note that Kansas occupies a place in group 2, which is composed of six states, group 1 being composed of but three states.

Certain errors were made in the grading of this department, which have been pointed out to Doctor Chapin, and will, if corrected by the council, entitle us to practically lead the second division. At all events, with our present rating we have the highest rating of any state in the Union in proportion to the amount of money expended per capita of population.

Respectfully submitted.

S. J. CRUMBINE, M. D., *Secretary.*

Minutes of the Third Quarterly Meeting of the State Board of Health,

Held in the offices of the secretary, at Topeka, March 20, 1916.

The third quarterly meeting of the State Board of Health was held in the offices of the secretary, in Topeka, March 20, 1916.

Upon roll call, a quorum was present, namely; Doctors Alexander, Cummings, Ewing, Aldrich and Coburn, and Mr. Lock, attorney.

The minutes of the second quarterly meeting were read by the secretary, and upon motion approved and placed on file.

Upon motion, the Board adjourned for luncheon.

The Board reconvened in regular session at 1:30 p. m., with a quorum present.

The report of the special committee on the sanitary rules was then read, and upon discussion and amendment was unanimously adopted, which rules as adopted read as follows:

At a regular quarterly meeting of the State Board of Health, held in the offices of the secretary, Topeka, Kan., March 20, 1916, at which a quorum was present, the following sanitary regulations were unanimously approved:

SANITARY RULES AND REGULATIONS.

RULE I. *Abandoned wells.* The use of abandoned wells as cesspools is prohibited.

RULE II. *Concerning privy vaults, cesspools, etc.* No privy, vault, cesspool or reservoir into which a privy vault, water-closet, stable or sink is drained, except it be water-tight, shall be permitted within fifty feet of any well, spring or other source of water used for drinking and culinary purposes; nor shall any such open into any stream, ditch, or drain, except common sewers, nor shall any such be drained into an underground flow of water or water stratum which is used as a source of water supply.

RULE III. *Drains.* All drains carrying domestic sewage containing human or animal excreta passing within fifty feet in ordinary soil, or eighty feet in sandy soil, of any source of water supply shall be water-tight.

RULE IV. *Refuse matter; nuisance.* The collection of refuse matter in or around the immediate vicinity of any dwelling or place of business, such as swill, waste of meat, fish or shells, bones, decaying vegetables, dead carcasses, excrement, or any kind of offal that may decompose, or any kind of offal that may decompose and generate unhealthy gases, and thus affect the purity of the air, shall be considered a nuisance, and must be removed or disposed of, either by burial, burning, or otherwise, and in such manner as not to be offensive.

RULE V. *Pigpens.* No pigpen shall be maintained within 100 feet of any well or spring of water used for drinking purposes, or within thirty feet of any street or fifty feet of any inhabited house. Such pens shall be kept in such manner as not to be offensive, by being freely deodorized at short intervals. No swine shall be kept within the limits of any incorporated city between May 1 and November 1 of any year.

RULE VI. *Unwholesome manufactory.* No person or company shall maintain any manufactory or place of business, such as tanneries, establishments for boiling bones or dead animals, manufacturing of fertilizer, rendering plants, etc., where unwholesome, offensive or deleterious odors, gases, smoke or exhalations are generated, except such establishments shall be kept clean and wholesome; nor shall any offensive or deleterious or waste substance, refuse or injurious matter from such establishments be allowed to accumulate upon the premises, or be thrown or allowed to run into any public waters, stream, water-course, street, road, or public place; and every person or company conducting such manufactory or business shall use all reasonable means to prevent the escape of smoke, gases, and odors, and to protect the health and safety of all operatives employed therein.

RULE VII. *Cattle, sheep, and pigpens, slaughterhouses, etc.* Every person owning, leasing or occupying any place, room or building wherein cattle, sheep or swine are killed or dressed, and every person being the owner, lessee or occupant of any stable wherein animals are kept, or any market, public or private, shall cause such place, room, building, stable or market to be kept at all times thoroughly cleansed and purified, and all offal, blood, fat, garbage, stable manure or other unwholesome or offensive refuse shall be removed therefrom at least once in every twenty-four hours, if used continuously, or, if only used occasionally, within twenty-four hours after using; and the floors of such building,

place or premises shall be constructed of cement, so as to prevent the blood, foul liquid or washings from being absorbed. No blood pit, dung pit, offal pit or privy well shall remain or be constructed within any such place, room, or building; nor shall swine be kept in the same enclosure with a slaughterhouse, nor fed there or elsewhere upon dead animals.

RULE VIII. *Inspection of slaughterhouses.* That county and municipal boards of health be required to inspect or have inspected by their health officer all slaughterhouses and other places where animals are slaughtered for food, and that the requirements of the law and rule 9 be rigidly enforced.

RULE IX. *Sanitary control of public buildings.* Local boards of health have sanitary control of all public buildings within their jurisdiction. The following is recommended respecting care of the same. All floors and halls not carpeted should be swept with sawdust dampened with a one-per-cent solution of formalin. The common duster should be abolished, and dusting done by removing dust with a dampened cloth. Frequent inspection of all closets, drainage and ventilation should be made, and where faulty hygienic surroundings are found, recommendations in writing for their betterment made to the county board of health and the judge of the district court.

RULE X. *Public institutions.* The State Board of Health shall cause to be made annually a careful sanitary inspection of all places and things in all the public institutions of Kansas, including the state penal and charitable institutions, the state educational institutions and all other institutions of higher education. A written report of such inspection shall be made to the State Board of Health and a copy of the same transmitted by the secretary to the institution inspected together with such recommendations or orders as are made by the board.

REPEAL. All previous regulations in conflict herewith are hereby revoked.

This is to certify that the above regulations were unanimously adopted upon the date and at the place above indicated.

(Seal.)

S. J. CRUMBINE, M. D., *Secretary.*

The standards committee then made its report, whereupon the following regulations and standards were unanimously adopted, which read as follows:

At a regular quarterly meeting of the State Board of Health, held in the offices of the secretary in Topeka, Kan., March 20, 1916, a quorum of the Board being present, the following regulation was adopted:

In accordance with the authority vested in the Kansas State Board of Health, chapter 230, Session Laws of 1909, and chapter 266, Session Laws of 1907, as amended by chapter 184, Session Laws of 1909, regulation 15, is herewith promulgated.

REGULATION 15.

It is ordered that all bread loaves before removal from the baking room shall be wrapped in clean, unused paper, unprinted, or printed on one side only.

The use of newspapers, or any unclean paper, for the wrapping of any article of food is prohibited.

This is to certify that the above regulations were unanimously adopted upon the date and at the place above indicated.

(Seal.)

S. J. CRUMBINE, M. D., *Secretary.*

At a regular quarterly meeting of the State Board of Health, held in the offices of the secretary in Topeka, Kan., March 20, 1916, a quorum of the Board being present, the following regulations were adopted:

In accordance with the authority vested in the Kansas State Board of Health under chapter 266, Session Laws of 1907, as amended by chapter 184, Session Laws of 1909, the following regulations are herewith promulgated:

REGULATION 37.

The addition of free tartaric acid to foods is prohibited.

The presence of added free tartaric acid in a food sold or offered for sale is evidence of the violation of this regulation.

REGULATION 38.

The shipment, sale or offering for sale within the state of eggs containing more than five per cent (5%) unfit for food will be considered a violation of the food and drugs law, under section 7 of the act.

In the opinion of the department, eggs which contain yolks stuck to the shell, moldy eggs, black spots, mixed rots, addled eggs, black rots, and any other eggs which consist wholly or in part of a filthy, decomposed or putrid substance, are adulterated.

This is to certify that the above regulations were unanimously adopted upon the date and at the place above indicated.

(Seal.)

S. J. CRUMBINE, M. D., *Secretary.*

At a regular quarterly meeting of the State Board of Health, held in the offices of the secretary in Topeka, Kan., March 20, 1916, a quorum of the Board being present, the following regulation was adopted:

REGULATION 39.

Certified dyes may be used in foods without objection by the department, provided the use of the dye in food does not conceal damage or inferiority; if damage or inferiority be concealed, the food is adulterated.

The following certified coal-tar dyes may be used in food products in this state, with the above restrictions, providing their presence be declared upon the label:

Red shades: 107, amaranth; 56 ponceau 3 R; 517, erythrosine.

Orange shade: 85, orange I.

Yellow shades: 4, naphthol yellow S; 94, tartrazine.

Green shade: 485, light green S. F. yellowish.

Blue shade: 692, indigo disulfoacid.

The former regulation regarding the use of coal-tar dyes in food products is hereby amended.

This is to certify that the above regulation was unanimously adopted upon the date and at the place above mentioned.

(Seal.)

S. J. CRUMBINE, M. D., *Secretary*.

At a regular quarterly meeting of the State Board of Health, held in the offices of the secretary in Topeka, Kan., March 20, 1916, a quorum of the Board being present, the food standards were revised as follows:

II. FOOD PRODUCTS.

b. Grain and Meal Products.

1. *Noodles, egg noodles*, are dried alimentary pastes made from wheat flour and egg. They contain not less than five per cent (5%) by weight of the solids of whole, sound egg exclusive of the shell, without added color.

2. *Plain noodles, water noodles*, are dried alimentary pastes made from wheat flour without egg, or with less than five per cent (5%) by weight of the solids of whole, sound egg exclusive of the shell, without added color.

E. TEA, COFFEE AND CACAO PRODUCTS.

c. Cacao and Cacao Products.

1. *Cacao beans, cocoa beans*, are the seeds of the cacao tree, *Theobroma cacao* L.

2. *Cacao nibs, cocoa nibs, cracked cocoa*, is the roasted, broken cacao bean freed from its shell or husk.

3. *Chocolate, plain chocolate, bitter chocolate, chocolate liquor, chocolate paste, bitter chocolate coatings*, is the solid or plastic mass obtained by grinding cacao nibs without the removal of fat or other constituents except the germ.

Chocolate, plain chocolate, bitter chocolate, chocolate liquor, chocolate paste, bitter chocolate coatings, contains not more than three per cent (3%) of ash insoluble in water, three and fifty hundredths per cent (3.50%) of crude fiber, nine per cent (9%) of cacao starch, and not less than forty-five per cent (45%) of cacao fat.

4. *Sweet chocolate, sweet chocolate coatings*, is chocolate mixed with sugar (sucrose), with or without the addition of cocoa butter, spices, or other flavoring materials.

Sweet chocolate, sweet chocolate coatings, contains in the sugar and fat-free residue no higher percentage of ash fiber or starch than is found in the sugar- and fat-free residue of chocolate.

5. *Cocoa, powdered cocoa*, is cacao nibs, with or without the germ, deprived of a portion of its fat and finely pulverized.

Cocoa, powdered cocoa, contains percentages of ash, crude fiber and starch corresponding to those in chocolate after correction for fat removed.

6. *Sweet cocoa, sweetened cocoa*, is cocoa mixed with not more than sixty per cent (60%) of sugar (sucrose).

Sweet cocoa, sweetened cocoa, contains in the sugar-and-fat-free residue no higher percentage of ash, crude fiber or starch than is found in the sugar- and fat-free residue of chocolate.

7. *Milk chocolate, milk cocoa, sweet milk chocolate or sweet milk cocoa*, respectively, is chocolate, cocoa, sweet chocolate or sweet cocoa which contains not less than twelve per cent (12%) of whole milk solids in the finished product.

The original standards applying to cacao and cacao products are herewith repealed.

This is to certify that the above standards were unanimously adopted upon the date and at the place above mentioned.

(Seal.)

S. J. CRUMBINE, M. D., *Secretary*.

The report of the special committee on quarantine regulations was then presented to the Board, and after general discussion and amendment, was upon roll call unanimously adopted.

The regulations as adopted read as follows:

At a regular quarterly meeting of the State Board of Health, held in the offices of the secretary, Topeka, Kan., March 20, 1916, at which a quorum was present, the following regulations concerning communicable disease and quarantine were unanimously approved:

CONTROL OF COMMUNICABLE DISEASE.

RULE I. No member of any household in which cholera, smallpox, diphtheria (including membranous croup) or epidemic cerebrospinal meningitis exists and no person afflicted with or recovering from any of these diseases shall be permitted to appear on the public streets or highways or in any public place, or attend any place of public amusement, worship, or visit any other private house, until after danger from contagion is passed and said household premises thoroughly disinfected.

RULE II. No person, who has not had smallpox and who by reason of contact with a patient afflicted with smallpox is thereby declared to be exposed to the disease, shall be permitted to appear on the public streets or highways or in any public place, or attend any place of public amusement, worship, or visit any other private house for a period of twenty-one days after such exposure; provided, that if such exposed persons shall undergo vaccination, the above restrictions shall apply only until such time as the said vaccination shall prove successful; provided further, that these restrictions shall not apply to persons who shall present evidence of a successful vaccination. The local city or county health officer in whose jurisdiction the case occurs shall determine as to what constitutes exposure and successful vaccination in each individual case.

RULE III. No member of any household in which scarlet fever exists and no person afflicted with or recovering from such disease shall be permitted to appear on the public streets or highways or in any public place, or attend any place of public amusement, worship, or visit any other private house, until the patient or patients in such household shall be entirely recovered and desquamation is completed, and in no cases shall the time during which these restrictions shall apply be less than twenty-one days; furthermore, that all persons recovering from such disease shall be subject to these restrictions for fourteen days in addition to these twenty-one days, and until all discharges from the nose, ears and throat or suppurating glands have ceased; provided further, that in all instances where in the opinion of the city or county health officer proper and safe arrangements can be made, the wage earners of the family may be released from such restrictions, provided the work of the wage earner does not bring him in contact with children, or that he does not attend places of public assemblage.

RULE IV. In the belief that in all cases of communicable disease the public is entitled to such notice of same, that individuals may be enabled to avoid exposure to infection, all premises on or in which cases of measles, German measles, whooping cough, chickenpox, mumps, typhoid fever or epidemic poliomyelitis shall occur shall be placarded as are other diseases mentioned in the quarantine law.

RULE V. No person afflicted with or recovering from measles, German measles, whooping cough, chickenpox, mumps or epidemic poliomyelitis shall be permitted to appear on the public streets or highways or in any public place, or attend any place of public amusement, worship, or visit any other private house until they shall be declared by the local health officer free from danger of transmitting the infection.

RULE VI. No member of any household in which measles, German measles, whooping cough, chickenpox, or mumps exists, who has not had the disease for which the house is placarded, and no person exposed to any of these diseases, shall be permitted to attend school or places of public assemblage during the following periods: In measles for fourteen days after exposure; in German measles for fourteen days after exposure; in whooping cough for fourteen days after exposure; in chickenpox for sixteen days after exposure; in mumps immediately upon the appearance of the first symptoms.

RULE VII. In epidemic poliomyelitis or infantile paralysis the minimum limit of quarantine shall be twenty-one days or such longer period as may in the judgment of the health officer be deemed necessary.

RULE VIII. All houses in which typhoid fever or epidemic poliomyelitis exists shall be effectively screened against flies.

RULE IX. The time of quarantine of all contagious diseases or diseases dangerous to the public health, except as herein specified, shall be such time as in the judgment of the city or county health officer in which jurisdiction the case occurs, it may appear safe to raise the quarantine after the house and premises have been fumigated and disinfected according to the requirements of the quarantine law.

Health officers shall be governed by the following periods of isolation and quarantine within the meaning of this rule:

Smallpox, until fourteen days after the development of the disease and until scabs have all separated and the scars completely healed.

Chickenpox, until twelve days after the appearance of the eruption and until the crusts are fallen and the scars are completely healed.

Diphtheria (including membranous croup), until two successive negative cultures have been obtained from the nose and throat of the patient at intervals of twenty-four hours and until one negative culture shall have been obtained from each of other members of the household unless circumstances in rural communities make such procedure impracticable, in which instance the minimum period of quarantine shall not be less than twenty-one days from date of onset of the disease.

Scarlet fever as in rule III.

Measles and German measles, until seven days after the appearance of the rash and until all discharges from the nose, ears and throat have disappeared and until the cough has ceased.

Mumps, until two weeks after the appearance of the disease and one week after the disappearance of the swelling.

Whooping cough, until six weeks after the development of the disease or until one week after the last characteristic paroxysmal cough.

RULE X. Any person who is known to harbor the bacilli, virus or infective agent of any communicable disease, even though manifesting no symptoms of such disease, is hereby declared to be a carrier and a menace to the public health, and the name and address of such person shall be reported immediately to the local city or county health officer in whose jurisdiction such person resides. The local health officer shall immediately investigate and report to the State Board of Health. Pending the receipt of instructions from the State Board of Health, the local health officer shall isolate or quarantine the carrier if in his judgment the danger to the community necessitates such action. In the event of any known or suspected carrier leaving the jurisdiction of a local health authority, the State Board of Health shall be notified by the local health officer of the name of the carrier and his destination.

RULE XI. *Care of Room in Contagious or Infectious Diseases.* The room occupied by a person sick with a contagious or infectious disease shall previously be cleared of all carpets, needless clothing, furniture, draperies, books and toys, and all other articles not actually needed in the care of the sick. After death or recovery, the room, furniture and other contents not to be destroyed must be immediately and thoroughly disinfected by an approved disinfectant. The floor, woodwork and wooden furniture shall be then scrubbed with soap and water and afterwards mopped with a two-per-cent solution of formalin. All utensils that can be washed shall be thoroughly boiled. Individual dishes and drinking cups shall be used, and, in typhoid fever particularly, the room shall be kept free from flies by effective screening. Dogs, cats and other pet animals or birds are prohibited in the sick room.

RULE XII. *Disinfection of Discharges from Sick.* The discharges of the patient must be received into vessels containing some known disinfectant, and, if not buried at once must be thrown into a cesspool or watercloset, but never on the ground nor into a running stream. Perfect cleanliness on the part of the nurses and attendants is enjoined.

RULE XIII. A thorough and effective fumigation and disinfection of all premises shall be required after the termination of cases only of cholera, smallpox, scarlet fever, diphtheria, epidemic cerebrospinal meningitis, epidemic poliomyelitis, typhoid fever, puerperal fever and tuberculosis.

RULE XIV. *Public Funerals.* Since members of households and others who are brought in contact with cases of communicable disease often acquire infection and even though they may manifest no active symptoms of the disease are capable of transmitting the infection to others in more virulent form, and since public funerals promote contact between relatives of deceased persons and the general public, therefore, public funerals are prohibited in cases where a body has died of a contagious disease, and no more persons should be permitted to go to the cemetery than are necessary to inter the corpse.

RULE XV. *Transportation of Contagious Diseases Prohibited.* Transportation companies, including steam railways, suburban electric lines, and street railways, are prohibited from receiving any person for transportation who is suffering from smallpox, diphtheria, scarlet fever, measles, whooping cough, erysipelas or chickenpox.

RULE XVI. *Public Bath.* No person who is suffering from gonorrhea and syphilis shall be served in a public bathroom in this state; and no person suffering from syphilis shall be served in any barber shop, such prohibition to continue until twelve months has elapsed from date of infection.

RULE XVII. The following rules have been adopted for the government of the laboratory of the Kansas State Board of Health:

1. Free examination of sputum, swabs from the cases of suspected diphtheria, from cases of suspected gonorrhea, the Widal reaction for typhoid fever, blood examinations for the malarial organisms, and the examination of the brain of animals suspected of having rabies, shall be made for any legally qualified physician of the state.

2. All specimens shall be sent in the mailing cases which are provided by the laboratory of the Kansas State Board of Health. Health officers should keep on hand a supply of mailing cases for distribution in their localities. Mailing cases are sent prepaid to any physician on request.

3. Postage on all specimens sent to the laboratory must be prepaid at first-class or letter rate.

4. Reports of examinations will always be sent by mail, on postal card in open mail if negative, but enclosed if positive. If requested, reports will be made by telephone or telegraph at the expense of the person making the request.

5. Brains of animals suspected of having rabies must be taken out and packed in ice and sent by express prepaid.

6. Pathological specimens of tissues will be examined for cancer, sarcoma, etc., only in the case of indigent patients. Such specimens should be sent in 50 per cent alcohol.

7. No analysis or laboratory examinations shall be made which are not related to or of importance to the public health.

RULE XVIII. *State quarantine, when necessary.* Whenever any part of this state appears to be threatened with Asiatic cholera, smallpox or other infectious or contagious disease from any adjoining state or territory, the secretary and executive officer of this

Board shall have the power and it shall be his duty, when requested by the mayor and council of any city of this state, or by any local board of health of any city of this state, to establish and maintain quarantine stations at the limits of the state at such points as may be deemed necessary, and to enforce thereat such rules and regulations as he may adopt and publish for the purpose of preventing or obstructing the introduction or spread of such disease into or within the state, by the inspection of all persons, places and things, and the exclusion of all infected or suspected persons and goods, and the purification of all infected places and things. In the interim between the meetings of the State Board of Health, the secretary and executive officer of this Board shall have the power and authority to adopt and enforce all rules and regulations which may be necessary to prevent the introduction or spread of such disease into or within the state as is conferred upon the State Board of Health by law.

RULE XIX. Disinterment and Transportation. The following regulations respecting the disinterment and transportation of dead bodies will be observed: Application shall be made for the disinterment of any body in Kansas to the secretary of the State Board of Health upon a blank prepared for that purpose, setting forth all the material facts concerning the name and age of deceased, the time of death, cause of death, and when buried; also name and place of reinterment, and the name and address of the undertaker having the remains in charge. Such application will receive the consideration of the secretary, and permission granted if in his judgment disinterment can be made without endangering the public health. No permit will be granted by application made by telegraph or telephone.

REPEAL. All previous regulations in conflict herewith are hereby revoked.

This is to certify that the above regulations were unanimously adopted upon the date and at the place above indicated.

(Seal.)

S. J. CRUMBINE, M. D., *Secretary.*

The report of the engineer was then submitted, and upon motion was adopted and ordered placed on file.

Upon motion, the following orders were issued to the cities of Galena and Medicine Lodge, and the secretary instructed to transmit these orders by registered mail to the mayors of the respective cities:

WHEREAS, The city of Galena, Kan., owns and operates a municipal waterworks plant for the purpose of furnishing water for general use to the residents of that city; and

WHEREAS, The source of supply is from the stream known as Shoal creek, which inspections and tests have repeatedly shown to be grossly polluted and liable to infection, and therefore unfit for use without purification: therefore, be it

Resolved, That the city of Galena be and hereby is ordered to install and operate a purification plant for treating the said water before delivery to the consumers, under plans and specifications approved by the State Board of Health, and that said plant shall be in operation on or before July 1, 1917.

WHEREAS, The city of Medicine Lodge, Kan., owns and operates a municipal waterworks plant for furnishing water for use to the residents of that city; and

WHEREAS, The said supply of water is carried through about 18,000 feet of 36-inch reinforced concrete pipe; and

WHEREAS, The joint connecting sections of this pipe were not properly made, and they admit surface water, which runs off over the surface of the ground into the pipe, thereby exposing the supply of water to dangerous pollution and possible infection: therefore, be it

Resolved, That the city of Medicine Lodge be and hereby is ordered to install a temporary plant for disinfecting the water supply before it is pumped into the mains for general distribution, said disinfection equipment to be installed and in operation on or before June 1, 1916, and to be subject to the approval of the State Board of Health.

Upon motion, Mr. Francis M. Veatch was elected assistant engineer, vice Mr. Fred Hesser, resigned, the term of office for Mr. Veatch to begin June 1, 1916, for the unexpired term of Mr. Hesser's service.

Upon motion, the engineer, Prof. C. A. Haskins, was authorized to represent the Kansas State Board of Health in the Cameron septic tank controversy, the Board to assume no financial responsibilities outside of the actual expense of Mr. Haskins in the work.

Prof. C. C. Young, director of the water and sewage laboratories, then made his report, which was approved and placed on file.

Dr. Lydia A. DeVilbiss then made a report for the Division of Child Hygiene, which was accepted and ordered placed on file.

Doctor DeVilbiss made the report of the special committee, composed of herself and Dr. B. J. Alexander, upon the inspection of the Atchison Orphans' Home, whereupon the secretary was instructed to send a copy of the report to the superintendent of the Home, and to the State Board of Control, the original report to be placed on file.

Upon motion, the Board unanimously instructed the same committee to reinspect the Atchison Orphans' Home on or before September 1, 1916, and to make report of such inspection at the first regular meeting of the State Board of Health held in September. The Board suggested also that a member of the Board of Control be invited to accompany the committee on reinspection.

Mr. W. J. V. Deacon, state registrar, made a verbal report for the Division of Vital Statistics. He asked that a six weeks' vacation be extended to Mr. Stewart Thompson, assistant state registrar, who desires to attend the summer school at Harvard University, to better prepare himself for the work in this department. Upon motion, the request was granted.

Doctor Greenfield then made a verbal report of the bacteriological work done the past quarter.

Doctor Sippy, epidemiologist, made a verbal report for the Division of Communicable Diseases and Sanitation.

Upon motion, these reports were accepted.

Mr. Congdon made written report for the Division of Food and Drugs, which upon motion, was ordered placed on file.

No other business appearing, the Board, upon motion adjourned.

The following bills were audited and allowed:

M. O. Lock	\$5.00
Prof. E. H. S. Bailey	3.48
Dr. C. H. Ewing	20.00
Dr. Clay E. Coburn	7.64
Prof. C. C. Young	2.83
Prof. C. A. Haskins	2.48
Dr. B. J. Alexander	12.09
Dr. J. S. Cummings	23.48
Dr. H. L. Aldrich	19.82
Prof. L. E. Sayre	3.58
Prof. J. T. Willard	2.58
Mr. J. F. Tilford	26.90

Respectfully submitted.

S. J. CRUMBINE, M. D., *Secretary.*

Report of the Secretary at the Annual Meeting of the State Board of Health, 1916,

Held in the offices of the secretary, in Topeka, Kan., June 2, 1916.

To the Members of the Kansas State Board of Health and the Advisory Board:

A review of the morbidity and mortality statistics, as gathered through our Division of Vital Statistics and Division of Communicable Diseases and Sanitation for the past year, would seem to indicate that there has been a greater mortality and fatality among our people during this year than in any preceding year. This condition is, perhaps, in some instances at least, more apparent than real, although there is no disguising the fact that the heavy mortality during the winter months of this fiscal year—due, in the main, to the widespread epidemic of so-called “grip,” with its deadly complications—has caused a death toll from our people greatly in excess of any other similar period in the history of the state of which records are available. In a disease of this character ordinary public health measures are of little or no avail. It is only by a widespread educational propaganda that any headway may be made toward staying the ravages of this highly contagious malady known as “la grippe.”

According to the bacteriologists, this epidemic differed in many important respects from our so-called “influenza grippe” which swept the state several years ago. Such bacteriological examinations as were made at the school of medicine at Rosedale and in the laboratories at Lawrence revealed the fact that the chief organism, at least, was the pneumococcus, and so it was known, at least locally, as “pneumococcic grippe.” It would seem that this must account for the very heavy fatality from pneumonia which was prevalent all over this country, and indeed in other countries as well.

The increased number of cases of communicable diseases must be attributable, in the main, not to an undue prevalence of such diseases, but chiefly to better reports from physicians, so that, outside of the epidemic of “pneumococcic grippe,” it may be fairly stated that the general health of the state during the past year has been fairly satisfactory.

The low death rate of Kansas, which according to the Census Department gives us the lowest for any state in the registration area, is probably due to a good many factors, among which may be enumerated:

First. The general widespread prosperity of the people of the state, the per capita wealth being stated as something over \$1600, there being a more even distribution of wealth in this state than almost any other state in the Union, as not many of our citizens are excessively rich and comparatively few may be classed as “paupers.”

Second. The high average intelligence of our people, the amount of illiteracy, as stated in our last census report, being 2.2 per cent.

Third. Our small negro population, which for the state is about 3 per cent.

Fourth. The general propaganda of public health education which has been carried on by this department during the past ten years, particularly as related to tuberculosis and typhoid fever; and last, but by no means least—

Fifth. The fact that the state is enjoying real prohibition, which means that many of the evil results on bodily health and vigor attendant upon the excessive consumption of alcoholic liquors is unknown to the mass of our population.

It is evident, therefore, that the people of Kansas are an exceedingly favored population, through the conditions that make for a low morbidity and mortality, so that it should be naturally expected that our annual death rate would be at a minimum. Moreover, an analysis of the age groups of our population reveals the fact that we have a larger per cent of people in the middle-age groups than the average rate in the United States. It is with some degree of justifiable pride that the State Board of Health has grounds for making the announcement that, in the Board's judgment, Kansas is the most healthful state in the United States in which to live and rear a family.

Mention was made in our last quarterly report of the published report of Dr. Charles V. Chapin of his survey of the work of the various state boards of health, and notation was made as to the comparative standing of the work of the Kansas State Board of Health with that of other states. It is worthy of note in this connection, which has not been stated heretofore, that the Kansas Board has the highest rating of any other state board of health, based on the expense per capita population; or, stated in other words, Doctor Chapin is of the opinion that the people of Kansas are getting more for every dollar expended in public health work than any other state in the Union.

In that connection it might be proper at this place in my report to speak of some of the needs of the department during the next biennium. While we feel more or less flattered that we are doing so much with the money appropriated, yet we constantly find many of our divisions seriously handicapped by reason of lack of appropriation. Take, for example, the antitoxin fund: In March the fund for the free distribution of antitoxins, vaccines, serums, etc., to the indigent poor of the state became entirely exhausted, and we were confronted with the necessity of notifying the health officers and physicians of the state that the distribution of free biological products must cease until the beginning of the next fiscal year. In the meantime the governor heard of the situation and very kindly volunteered the use of his emergency fund for this purpose. This shows, in a graphic way, it seems to me, the necessity for increased appropriations for the work of this department, not only for the distribution of biological products, but for the work of the Division of Water and Sewage, the Division of Foods and Drugs, the Division of Communicable Diseases and Sanitation, and the Division of Child Hygiene, all of which are suffering by reason of insufficient appropriations.

The Southern States Life Insurance Company has recently made a suggestion, which seems to have the approval of a majority of the life insurance companies of the United States, that the fees required of life insurance companies for doing business in the various states should be

set aside as a fund to preserve the health of the people of the state, including their policyholders, for whom these fees are paid. This seems to be a reasonable proposition, and if it should be carried into effect in this state would double our appropriation for doing public-health work and would afford us a reasonable sum for carrying on the work of the department.

DIVISION OF WATER AND SEWAGE.

The work of the Division of Water and Sewage is year by year increasing in volume and importance. Each year has shown an increase in the amount of work done by the engineers of the State Board of Health and the water and sewage laboratories of the State Board of Health. This is particularly true of the water and sewage laboratories this year on account of the legislation relating to the compulsory analysis of all waters used for domestic purposes in this state, including mineral waters, together with the examination of ice used for the same purpose.

During the past year orders have been issued on the following towns to improve their water supply in a manner acceptable to the State Board of Health, namely, Emporia, State Hospital at Osawatomie, Marion, Paola, Caldwell, La Harpe, Medicine Lodge, Galena, Cedar Vale and Caney, making a total of ten.

The following cities were ordered to provide the proper means for purifying their sewage before discharging it into the natural waters of the state, namely, Neodesha and Olathe, and the city of McPherson was ordered to repair its sewage purification plant in order that the sewage would be properly and effectively treated.

A considerable amount of research and investigation of sewage treatment plants has been done by this division and plans are under way for extensive research during the coming summer months.

The engineer will give a detailed report of these matters, and the director of the water and sewage laboratory will also make his annual report.

DIVISION OF FOODS AND DRUGS.

During the greater part of the past year this division has not only continued the regular work under the food and drug act, including the supervisory and sanitary inspection and control of all places where foods and drugs are stored, manufactured or offered for sale, but has also taken on the added burden of hotel inspection at the request of the governor. A number of years ago I reported to the Board that in my judgment the efficiency of the work of the inspectors was considerably hampered by hotel-inspection work, and recommended that hotel inspection be taken out of the department. I have no reason for changing my opinion as stated at that time, and I still believe that the additional labor and trouble involved in hotel inspection are largely purchased at the cost of decreased efficiency in food and drug work. With our small number of inspectors it is only by the hardest kind of work that the entire state is covered during the period of a year, but with the additional work of hotel inspection, if it is conscientiously and faithfully performed, the period between the visits of our inspectors to food and drug establishments are thus unnecessarily lengthened, to the detriment, I believe, of our food and drug work.

Mr. Congdon has brought up the hotel-inspection work to a high state of efficiency, with quite a balance of funds raised by fees to the credit of the hotel law, and it is believed that a regular hotel commissioner could now assume the duties of that office and relieve this division of the work. In this connection I believe that Mr. Congdon should receive additional compensation for the work he has put in on hotel inspection, but inasmuch as we agreed with the governor to take on this work without extra charge, it is a matter for the legislature to determine as to whether or not Mr. Congdon should receive the additional compensation which I believe he deserves.

One of the gratifying things worthy of note is the continuation of the physical examination of employees in the packing-house establishments in the state. This work is done in an exceptionally satisfactory way in the Kansas City packing houses, notably that of Swift & Co.

Mr. Congdon will give a detailed report of the work of this division.

DIVISION OF COMMUNICABLE DISEASES AND SANITATION.

The work of this division during the past year has been unusually heavy, due to the increased prevalence of disease the past winter, and the tabulation and study of the increased number of reports coming from physicians. A considerable amount of the epidemiological work that had been planned for this year has been impossible of accomplishment for two reasons: first, lack of time, with the small force in this division; and second, lack of funds.

The county board of health of Leavenworth made request of the department to assist in making a sanitary survey of the schoolhouses in that county, together with the physical examination of the school children. It was thought that this work would have been completed by this time, and yet we find that it has not been possible to even start it.

The most notable result of the work accomplished in this division, together with the Division of Water and Sewage and the Division of Public Health Education, is the marked decline in the typhoid death rate during the past year, the rate dropping from 19.6 per 100,000 for 1914 to 11.7 per 100,000 for 1915. It is hoped that this splendid record may be repeated for the current year.

DIVISION OF VITAL STATISTICS.

The work of this division during the past year is notable chiefly for two things: first, the check-up as to the efficiency of death reports in this state by the Bureau of the Census, and the coöperation between this division and the Division of Child Hygiene. As noted in my former report, the check-up made by the agent of the Census Bureau—said to be the most searching of any ever made in this country—gave the division a rating of 99.6 per cent efficiency, which is unequaled by any other state in the registration area that has thus far been checked.

Mr. Deacon will give a detailed report of the work of this division.

DIVISION OF CHILD HYGIENE.

The work of this division for the past year is of a character as to be, in my judgment, denominated as "pace-setting" for the rest of the country in child hygiene work. I shall not attempt to give an account of the vast amount of work accomplished by the director of the division, as we will

expect a detailed report of the work to be given by Doctor DeVilbiss. Suffice to say that the future prospect for the work of this division is exceedingly bright, although it must be said that the progress of this division's work is contingent upon larger appropriations for the coming biennium. Request was made of the legislature for a \$15,000 appropriation, which was considered a minimum sum, but the wisdom of the ways and means committee granted us but \$5000.

DIVISION OF PUBLIC HEALTH EDUCATION.

The work of this division has, perhaps, been the most notable the past year of any in its history. This was made so by the institution of several new if not entirely unique events: First, the institution of a School of Public Health Education, conducted in the offices of the department, which was designed as a training school for the working force of the State Board of Health and for the training and education of graduate nurses so as to fit them for public health nurses. Coöperating with the school, the Topeka Public Health Nursing Association gave the clinical and field training to the graduate nurses necessary for their full instruction in public health work. The school closed May 1, with examination of those desiring credit for attendance.

The School for Health Officers and Physicians, conducted for two weeks at Lawrence and Rosedale, was largely attended this year, the total registration for Lawrence being twenty, and the total registration for Rosedale being fifty-six. It is believed that the interest and enthusiasm were more marked and were better shown this year than during any year of the six previous years of the school's existence.

A larger number of public health educational pamphlets and posters have been issued than in any other year, with the possible exception of eight years ago, which marked the beginning of our antityphoid campaign. Our stereopticon loan slide library, and our moving-picture films have been generously patronized, and we have much of the time found ourselves unable to fill orders for these lectures. Perhaps the most far-reaching matter of interest relating to this division of the work was the appointment of your secretary as collaborating epidemiologist of the United States Public Health Service for Kansas, and as special agent of the Children's Bureau of the Department of Labor, through which means we are enabled to use the franks of both of these departments in the dissemination of literature to mothers of new-born babies, and the pamphlet of "Prenatal Care," issued by the Children's Bureau to prospective mothers. This is not only an immense saving in postage and printing to the state, in an amount probably exceeding three thousand dollars per annum, but also makes it possible for us to get this literature to interested parties at the very earliest date, which under other conditions we are unable to do. The following letter accompanies our pamphlet on "Care of the Baby" that is sent out to mothers in the state:

DEAR MADAM—The most precious thing in the world is the baby that comes to gladden the home. The state and the nation rejoice with you upon the advent of this new citizen of the republic, and they, too, are anxious with you that its progress in physical and mental development be normal and natural, to the end that your baby may grow into a strong, healthy and useful citizen.

In order that a better understanding of the essentials of infant care may be more widely disseminated, the United States Public Health Service, coöperating with the State Board of Health, is sending to every mother whose baby's birth is properly reported to the local registrar of births, a pamphlet on "The Care of the Baby," which we trust will be carefully read and kept for future reference.

With cordial congratulations and best wishes, I am

Very truly yours,

S. J. CRUMBINE, M. D.,

Collaborating Epidemiologist for Kansas,

U. S. Public Health Service,

Secretary, Kansas State Board of Health.

These two federal appointments, together with the fact that your secretary has for several years been a collaborating official with the Bureau of Chemistry of the United States Department of Agriculture, emphasizes the possibilities and advantages of a closer collaboration of the states with the federal government in carrying forward important public health measures. Our unique system of dual government makes it impossible for the federal government to reach, in an effective way, the individuals in the state, and, on the other hand, our meagre appropriations make it impossible for this department to do the work that needs to be done; so by this new idea of collaboration between state and federal officials the impassable gulf is thus breached in an effective fashion, to the advantage and benefit of all parties concerned.

The director of this division has had the privilege of acting as chairman of a committee appointed by the State and Provincial Boards of Health of North America to prepare a pamphlet designed to be an outline of study for men's and women's clubs on public health topics. That pamphlet is now in the press, being printed by the American Medical Association, and will have country-wide distribution.

A member of the State Board of Health has also made an important contribution to public health education, which I believe to be worthy of note and record in this annual report. The distinguished member of this Board, Dr. Charles H. Lerrigo, has put his second public health novel on the market, which is designed, perhaps, to be of greater value in the education of the careless and indifferent than the more or less trite and dry public health pamphlets. I cordially commend to the members of the Board and to the citizens of the state, a reading of Doctor Lerrigo's latest production, "The Castle of Cheer."

Dr. W. S. Rankin, secretary of the North Carolina state board of health, who was this year one of the instructors at our School for Health Officers, has proposed a new plan of postgraduate medical education, which I heartily commend to the Board for their recommendation, the details of which I shall be glad to give under the head of "new business."

RECOMMENDATIONS.

The Department of the Treasury, upon the approval of the Surgeon General of the United States Public Health Service, has issued interstate quarantine regulations of the United States, known as "Miscellaneous Publication No. 1 of the Treasury Department." These recommendations, in effect, provide certain rules under which persons sick or exposed to certain communicable diseases may travel, or are prohibited from traveling, on common carriers in interstate traffic. It is recom-

mended by the Surgeon General that these regulations, changed in such parts as will make them apply to the various states, be adopted by the respective states in the regulation of intrastate travel in those states. I therefore recommend that the suggestion of the Surgeon General be adopted, and the quarantine regulations, so changed as to meet the provisions of a single state, be adopted in this state.

MISCELLANEOUS.

Doctor Lerrigo represented the Board at the annual meeting of the secretaries with the Surgeon General in Washington this year, as the secretary was unable to attend. He will, no doubt, give a report of this conference under the head of "new business."

After the report of the committee on the inspection of the Atchison Orphans' Home was made public by the governor's office, the governor gave your secretary a written order that this same committee should inspect the Osawatomie Insane Hospital and such other institutions as had not yet been inspected by the regularly appointed committees of the Board. Accordingly, Doctor Alexander and Doctor DeVilbiss made an inspection of the Osawatomie institution, which will be reported to you by Doctor DeVilbiss.

This committee was also added to the committee regularly appointed for the inspection of the Penitentiary. Report of this inspection will be made by Doctor Lerrigo.

With the end of this fiscal year your secretary will have served the State Board of Health twelve years. As we look back upon the work of the Board as it was then conducted under the laws, or the absence of laws, with a meager appropriation of \$3000 a year, and compare it with the volume and character of the work as now transacted under the Board's six divisions, it makes me wonder how so much could have been accomplished in so brief a space of time. Oftentimes we are inclined to think that things move slowly and we chafe with impatience at the apparent slow progress we are making; but as we look backward we realize that after all progress is being made with great rapidity, and that more and better work has been accomplished than we could reasonably hope for in the beginning. All of this stimulates one to hope that it may not be long until the state department of health will be financed in a measure commensurate with its importance, and the work be no longer handicapped by lack of appropriation. I am optimistic in my belief, also, that the people of the state are beginning to realize in a way they have never done before that money spent in public health work is not after all an expense, but a real dividend-paying investment.

To-day we welcome two new members of the Board. We trust that their interest in and their attendance at the meetings of the Board may be such as their advance reputation for personal worth and professional ability lead us to believe will be the case.

Respectfully submitted.

S. J. CRUMBINE, *Secretary.*

Minutes of the Annual Meeting of the State Board of Health,

Held in the offices of the secretary, Topeka, Kan., June 2, 1916.

The annual meeting of the State Board of Health was held in the offices of the secretary, in the statehouse, Topeka, Kan., June 2, 1916.

All of the ten members of the Board, upon roll call, were present. All of the members of the advisory board were present except Prof. F. W. Blackmar and Dr. R. S. Magee. All the members of the conference of the State Board of Health were present excepting Mr. B. L. Thompson.

The regular order of business was taken up, and the secretary read the minutes of the last quarterly meeting, which upon motion was approved and ordered placed on file.

Upon motion, the secretary was directed to suspend the order given by the Board at its last quarterly meeting to cite Doctor Atkins and Doctor Brawley to appear before the Board at its annual meeting to show reason why they should not be dismissed from the office of county health officer, and authorized the secretary to exercise his judgment, conditioned upon these doctors observing the vital statistics and public health laws, as to whether or not they should be ordered to appear before the Board at its next quarterly meeting.

The annual report of the secretary was then read after which discussion of the recommendations followed.

Upon motion, the question of the adoption of the interstate quarantine regulations, issued by the United States Department of the Treasury, relating to the sanitation of railway trains and the conditions under which persons suffering from certain communicable diseases might be transported in interstate traffic, was postponed until the next quarterly meeting, and the secretary was instructed to provide each member of the Board with a copy of said interstate quarantine regulations for study during the interim.

Upon motion, the thanks of the Board were extended to Mr. William Allen White for his interest in the work of the State Board of Health, particularly for his generous attitude as expressed by his raising funds to continue the work of the distribution of diphtheria antitoxin after the funds provided by the legislature had become entirely exhausted.

The annual report of the engineer of the State Board of Health was then read and ordered placed on file.

Upon motion, it was ordered that the question of the observance of the orders issued by the State Board of Health concerning the purification of the water supplies of Medicine Lodge and Cedar Vale were referred to the attorney-general, with request that he write to the aforesaid cities with the view of compelling compliance by those cities with the orders of the Board.

Upon motion, the Board voted that the secretary write the mayor and commissioners of the city of Wichita to build a sewer that will serve the city in the unsewered district of that city, together with the packing-house industries, similar to the letter of request sent to the city of Topeka last year.

Upon motion, the president was authorized to appoint a committee to consider the problems of the disposal of garbage by the various cities in the state, and to prepare or suggest a model state law which might be submitted to the next legislature, said committee to report at the next regular meeting of the Board, whereupon the president appointed the attorney, the engineer and the secretary of the Board to serve as such committee.

A committee appointed by the State Pharmaceutical Association, composed of Prof. L. E. Sayre, Mr. J. F. Tilford and Mr. O. E. Topping, presented to the Board the following report:

After reviewing the literature of this subject and canvassing the situation, your committee desires to submit the following to the Kansas State Board of Health concerning the meeting of the conference committee of the Board of Health with the Kansas Pharmaceutical Association on patent medicine:

Chairman Tilford reviewed the record of the State Board of Health, leading to the appointment of this committee. The discussion of the duties of the committee followed, which led to a resolution as follows:

"Resolved, That the committee on conference report to the Board of Health that in compliance with their request that the Kansas Pharmaceutical Association appoint a committee to confer with the Board of Health regarding some constructive legislation bearing upon patent medicines, that such committee was duly appointed by the Kansas Pharmaceutical Association on May 17, consisting of the following members: Floyd Tilford, chairman; A. E. Topping and L. E. Sayre. This committee is now ready to take up with the Board of Health, as requested, the subject under consideration, and for further work. It is

"Resolved, That this committee await the action of the Board of Health for their advice and instruction, and asks the Board of Health for suggestions as to how the committee should further proceed in its work."

Whereupon a motion prevailed that the president appoint a committee of three to confer with the committee from the State Pharmaceutical Association to put into effect the purposes of the committee, and thereupon the president appointed Doctors Lerrigo, Walker and Magee as a committee representing the State Board of Health.

The following report of the state bacteriologist was then presented:

Specimens Examined Since July 1, 1915.

Specimens of sputum	1,826
Showing the tubercle bacilli	371
Suspected diphtheria	2,147
Showing diphtheria	743
Widal reaction	402
Positive reaction	139
Gonorrhœa	53
Showing infection	20
Rabies	18
Showing rabies	5
Malarial organism	5
Showing organism	2
Spinal fluid	5
Showing diplococcus meningitis	0
Specimens of tissue	5
Total number	4,461

The report was accepted and the work of the bacteriologist commended.

Upon motion, the bacteriologist was instructed to procure a post-office box for the purpose of having diphtheritic specimens taken care of in a way so as to make them available for examination on holidays and Sundays, and the secretary was instructed to arrange with the postmaster about the prompt dispatch of such specimens.

The annual reports of Professor Bailey, Professor Willard and Professor Sayre were then read, and upon motion were adopted and ordered placed on file. Their reports are attached hereto as a part of these minutes:

DECENNIAL REPORT ON WORK OF FOOD LABORATORY AT THE STATE UNIVERSITY.

MAY 31, 1916.

To the State Board of Health, Topeka, Kan.:

GENTLEMEN—This year practically completes the tenth year of our work at the University of Kansas on pure foods, as the first published report appears in the bulletin of the Board of Health for January, 1906. This report was made upon samples sent in by the secretary, and the analyses were made in accordance with the provisions of the law enacted by the Kansas legislature, session of 1905 (chapter 482). June 30, 1906, the federal food and drug act was passed, and at the 1907 session of the Kansas legislature the Kansas pure food law, as it is sometimes called, was passed.

Since that time the publication of bulletins giving the result of the analyses made in the laboratory at the University has been continued. Two chemists are employed in the work, and the bacteriological department makes examinations of products whenever it is necessary.

The products analyzed at the University laboratory may be classified as follows:

- | | |
|---|--|
| 1. Canned fruits: Peaches, cherries, plums, strawberries, raspberries, etc. | 9. Candies. |
| 2. Canned vegetables: Beans, corn, kraut, tomatoes, succotash, asparagus, peas, sweet potatoes, and hominy. | 10. Honey. |
| 3. Fish and meat products: Hamburger steak, sausage, meat flour, canned fish, bologna, mince meat, chile con carne. | 11. Milk and products: Milk, cream, and ice cream. |
| 4. Dried fruits: Figs, strawberries, raspberries, apricots, apples, raisins, peaches, currants and prunes. | 12. Beverages: Carbonated, alcoholic, grape juice. |
| 5. Jelly, jams and preserves: Apple, strawberry, etc.; citrus fruits, peanut butter. | 13. Condiments: Celery relish, horseradish, Worcestershire sauce, spice, clam-tone, etc. |
| 6. Extracts: Wintergreen, mint, cinnamon, banana, strawberry, lemon, vanilla, raspberry, and pineapple. | 14. Farinaceous: Flour, feed, cereals. |
| 7. Vinegars. | 15. Rice. |
| 8. Vegetable oils: Olive, cottonseed, and salad dressing. | 16. Colors. |
| | 17. Sirups. |
| | 18. Pickles. |
| | 19. Jell powders. |
| | 20. Nuts. |
| | 21. Catsups. |
| | 22. Cocoas. |
| | 23. Chocolate. |
| | 24. Cocoanut. |
| | 25. Bread, crackers and cakes. |

The table following covers the summary of the work of the state food laboratory for the year, June 1, 1915, to June 1, 1916. It shows: (a) the various kinds of products examined; (b) the number and kinds of samples reported during each month of the year and the total for the year; (c) the number of each variety of samples for each month and for the year; (d) the number of samples reported as illegal, legal, and unclassified, for the year.

SUMMARY OF WORK OF THE STATE FOOD LABORATORY, JUNE 1, 1915, TO JUNE 1, 1916.

	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Illegal.	Legal.	Unclassified.	Total.
Beverages.....	23	16	21	34	17	9	1	3	3	5	5	8	39	49	57	145
Canned goods.....		2	2	1			12	17	3				12	12	13	37
Catsups.....										5			4	1		5
Cocoas.....		12								2				14		14
Confections.....		28	21	9	4	13	13						21	63	4	88
Dairy products.....						4	10	6	8	12	1			6	33	39
Dried fruits.....	4						3		3	2	5		11	3	3	17
Extracts.....	1		1	4	5	4	7	4	40	24	10	2	13	1	88	102
Grain and bakery products.....			2			2	1		8	1				1	13	14
Grapefruits.....						25							21	3	1	25
Ice creams.....		14	7										10	6	5	21
Jellies, jams and preserves.....		4	20		7	10		2		3			9	26	11	46
Oils.....								1		2	2	1	3	2	1	6
Pickles.....		1	10		3			2	1	2		1	10	7	3	20
Rice.....						1	2		1				2	1	1	4
Syrups and sugars.....		1	1	1	1	3	5	1	4	2	1	1	4	10	7	21
Miscellaneous.....	2		1	1		4	2	2	5	7	3	2	5	8	16	29
Vinegars.....	1		4	3	1		3		1	12	17	34	26	42	8	76
Totals.....	31	78	90	53	38	75	59	38	77	77	44	49	190	255	264	709

*Remarks Covering Samples Reported.***BEVERAGES REPORTED ILLEGAL:**

Nineteen samples of pop contained saccharine.
 Three contained sodium benzoate.
 Two samples of temperance beverage contained alcohol.
 One cider contained saccharine, one contained sulphites and another was misbranded.
 One so-called "grape" cider contained sodium benzoate.
 Four ciders contained sodium benzoate.

BEVERAGES REPORTED UNCLASSIFIED:

Thirty-one temperance drinks and beers and eleven ciders were found to be alcoholic.
 One peach cider was found to be alcoholic.
 Four samples of fruit syrup were questionably labeled.
 Two samples of pop were broken in transit.
 One sample of pop was colored with an unidentified coal-tar dye.
 One sample of "white mule" contained 87 per cent alcohol.

CANNED FOODS (ILLEGAL):

Eight samples representing gooseberries, plums, sweet potatoes and loganberries contained excessive amounts of salts of tin. Three samples of sweet potatoes, one of pumpkin and one of corn were unfit for food.

CANNED GOODS (UNCLASSIFIED):

Thirteen samples of "swell" canned foods, representing tomatoes, corn, kraut, gooseberries, blackberries, cherries, peaches, plums and succotash, sent to the laboratory for information, were unfit for consumption by reason of excessive amounts of tin in some cases and excessive amounts of yeasts and molds in others.

CATSUPS (ILLEGAL):

Four samples of catsup contained excessive quantities of molds.

CONFECTIONERY (ILLEGAL):

One sample was about one-third starch.
 Twelve samples contained tartaric acid.
 Six samples were misbranded.

CONFECTIONERY (UNCLASSIFIED):

Four samples contained starch, varying in amounts from 1 per cent to 4 per cent.

DAIRY PRODUCTS (UNCLASSIFIED):

Three unofficial samples of butter, taken on suspicion, were found to be O. K.
 Of twenty-five samples of milk taken by the city milk inspector ten contained visible dirt.
 One sample of human milk, three of cheese and two of oleo were examined on request.

DRIED FRUITS (ILLEGAL):

Three samples contained mites, six an excess of moisture, one an excess of sulphites, and two were bleached.

DRIED FRUITS (UNCLASSIFIED):

Three samples from the State Prison were bleached.

EXTRACTS (ILLEGAL):

Ginger beer, one sample; capsicum present.
 Fruit nectar compounds, two samples; tartaric acid present.
 Vanilla, four samples; one misbranded as to alcoholic content, three colored with caramel.
 Lemon extract, one sample; contained only a trace of oil.
 Imitation pineapple extract, one sample; artificially colored.
 Imitation banana extract, one sample; artificially colored.

EXTRACTS (UNCLASSIFIED):

Vanilla, eighteen samples; five with question as to color, two with abnormal lead numbers, two with abnormal quantities of resins, one broken, five unofficial, two contained a gummy material, two labeled as substitutes.
 Fruit extracts, eighteen samples; for research work.
 Imitation lemon extract, two samples; one with added color suspected, the other from State Prison.

GRAIN AND BAKERY PRODUCTS (UNCLASSIFIED):

Wheat, one sample; damaged by insects.
 Macaroni, one sample; unofficial.
 Spaghetti, two samples; unofficial.
 Bread, one sample, from State Prison.
 Corn meal, one sample, from State Prison.
 Baking powder, one sample, from State Prison.
 Baking powder, six samples; for contents of tartaric acid.

GRAPEFRUIT (ILLEGAL):

Twenty-five samples were found to be immature.

GRAPEFRUIT (UNCLASSIFIED):

One sample decomposed; no analysis.

ICE CREAM (ILLEGAL):

Three samples were substandard in fat content and contained added thickener, six were substandard in fat content and one contained undeclared added color.

ICE CREAM (UNCLASSIFIED):

Five samples contained relatively large numbers of bacteria.

JELLIES, JAMS AND PRESERVES (ILLEGAL):

Apple-cherry jelly, one sample; excessive amount of yeasts and spores.
Strawberry jam, one sample; excessive amount of yeasts, spores and molds.
Raspberry jam, one sample; excessive amount of yeasts, spores and molds.
Apple jelly, one sample; made from apple trimmings; misbranded.
Apple jelly, two samples; starch and added color; misbranded.
Cherry preserves, one sample; yeasts and spores.
Apple-currant jelly, one sample; starch, yeast and spores.

JELLIES, JAMS AND PRESERVES (UNCLASSIFIED):

Jelly, one sample; contained starch.
Preserves, two samples; unofficial.
Preserves, one sample; contained starch.
Apple trimmings, two samples sent in for investigation; contained starch.
Jelly, one sample; misbranded as to color; unofficial.
Jelly, one sample; unofficial; made from apple stock; contained starch.
Jelly, one sample; unofficial, made from apple juice.
Jellies, three samples, home-made, for investigation.

OILS (ILLEGAL):

Sweet oil, one sample; rancid.
Strawberry oil, one sample; misbranded.
Sweet oil of sesame, one sample; misbranded.

OILS (UNCLASSIFIED):

"Lemol," one sample, a mixture of cottonseed oil and lemon oil.

PICKLES (ILLEGAL):

Ten samples contained compounds of aluminum.

PICKLES (UNCLASSIFIED):

Green cucumbers, one sample, sent on request; no aluminum compounds found.
Pickles, one sample, sent on request; aluminum compounds present.
Pickles, one sample, from State Prison.

RICE (ILLEGAL):

Four samples coated with glucose and talc.

RICE (UNCLASSIFIED):

One sample, from State Prison.

SYRUPS AND SUGARS (ILLEGAL):

Syrup, one sample; diluted with water.
Powdered sugar, one sample; added starch.
Sorghum and corn syrup, one sample; proportion of ingredients not stated.
Maple sugar, one sample; short weight.

SYRUPS AND SUGARS (UNCLASSIFIED):

Syrup, two samples, from State Prison; fermented.
Ginger beer syrup, one sample; contained capsicum.
Commercial glucose, one sample, from State Prison.
Concentrated syrup acid; one sample; 39 per cent phosphoric acid.
Cane and maple syrup, one sample; advertised as maple and cane syrup.
Grape smash syrup, one sample; very little of true grape product present.

VINEGARS (ILLEGAL):

Nine samples substandard in acidity; of these three were watered, one was a second pressing vinegar, and one was substandard in alkalinity of ash and in soluble phosphoric acid.
Sixteen samples were substandard in alkalinity of ash and in soluble phosphoric acid and polarization.
One sample contained added distilled vinegar.

VINEGARS (UNCLASSIFIED):

One unofficial sample sent in for acid test.
One sample from State Prison.
Four samples substandard in alkalinity.

MISCELLANEOUS (ILLEGAL):

Indigo bluing, one sample; found to be Prussian blue.
 Celery, one sample; copper salts present.
 Sardines, two samples; excessive amounts of salts of tin present.
 Mustard, one sample; contained added corn starch.

MISCELLANEOUS (UNCLASSIFIED):

"Snow mellow," one sample; sent in for general analysis.
 Apple waste, color, dextrin, and phosphoric acid, corn starch, one sample each; unofficial.
 Coffee, lard, mustard, ginger, cinnamon, tea, pepper, one sample each, from State Prison.
 Acetic acid, one sample; found to be commercial acetic acid.
 Egg saver, two samples; exaggerated claims, sent in for information.

Besides the regular work of analysis of samples sent in by the inspectors, investigations along the following lines have been started or continued:

1. The composition of gases in canned foods.
2. The presence of tin in canned foods.
3. The composition of commercial fruit extracts and of fruit extracts made in the laboratory.
4. The estimation of small quantities of starch in food products.
5. The effect of hydrogenation upon the Halphen reaction.
6. The identification of tartrazine in mixtures of the certified colors.
7. The detection of glucose coating on rice.
8. Method for detecting coloring matter in food.

In regard to the number of illegal samples analyzed, it should be always noted that most samples are taken by the inspectors because there is some question as to quality or misbranding. Twenty-seven per cent of the samples for the year are reported as illegal. To this should be added some samples about which no definite report is made, pending questions to be investigated. Some of these would finally be reported as illegal.

We estimate that about one-third of the time of the chemists is employed in research work, which is necessary to find out the actual conditions of the food market. The inspectors are sometimes requested to get samples of all kinds of vinegar, of the jams and jellies on the market, or of all the cheap candies they can find. In this way we learn just what class of foods the people are actually using. There is always some work of this kind in progress.

In conclusion we may say that we believe the state of Kansas is to be congratulated that it started ten years ago this method of handling its food and drug adulteration problems. The system employed and the plan worked out of having the work under the direction of the state educational institutions gives a maximum of results with a minimum of expense to the state.

Respectfully submitted.

E. H. S. BAILEY.

W. S. LONG.

CLARENCE ESTES.

REPORT OF FOOD LABORATORY KANSAS STATE AGRICULTURAL COLLEGE.

Year ending June 1, 1916.

The following is a summary of the samples analyzed during the year:

Dairy products	530
Flour and cereal products	47
Canned goods	17
Beverages	39
Nuts	3
Meats and meat products	10
Vinegar	52
Miscellaneous	6
Total	704

The cream was analyzed mainly for the state dairy commissioner in checking up the cream stations.

The milk and ice cream analyzed showed a decided improvement in these products over previous years, the percentage of adulteration being very small compared with that shown in previous reports.

The tin content and other analytical data were obtained on several cans of evaporated milk. This class of foods was found to conform to the standards.

Moisture and salt determinations were made on twelve samples of exhibition butter.

An investigation of diabetic foods with reference to the new standard showed that most of them would pass the new standard, although all labels were under the old standard. One line examined was called "diabetic" foods. They are made by a "diabetic" food company. Many of their claims are misleading.

Some brands of sardines still show a tin content in excess of the 300 mg. per kilogram allowed. Several cans of lima beans examined for the tin content did not show excessive amounts.

A considerable number of samples of soda pop were found to contain saccharin. These nearly all originated from one or two plants in Missouri doing business in Kansas.

A number of samples of sausage were examined for preservatives and starch content. They were found to conform to the standards for this class of foods.

The vinegar samples examined were sent in by individuals for the acidity test.

The laboratory at present is investigating canned pork and beans with reference to the occurrence of foreign materials, such as molds, bean beetles, blight, anthracnose and other indications of decomposition.

Several lines of work are being developed upon which there is not sufficient information to report at this time. New methods are being tested and developed.

During the year a method was published for the "Determination of Fat in Ice Cream by the 'Babcock Method,'" upon which considerable favorable comment has been received.

Respectfully submitted. C. A. A. UTT, *Associate Food Analyst.*

DRUG LABORATORY REPORT FOR 1915-'16.

The samples received and passed upon by the drug laboratory during the past year comprise such preparations as aspirin, aspirin tablets, crude drugs, lime water, sweet spirits of nitre, carbolic acid, saltpeter, linseed oil, liquid petrolatum, powdered capsicum, cayenne pepper, red pepper, paprika, chili powders, fluid extracts, tinctures, spirits, patents, etc.

Much substitution has been noted in the case of aspirin and aspirin preparations, acetanilid and organic acids being substituted for the real salt. This state of affairs no doubt is due to the unsettled European conditions.

The saltpeter shows about 50 per cent adulteration, the adulterants being mainly sulphates and chlorides. Samples were found containing as low as 21.48 per cent to 12.28 per cent potassium nitrate.

In our investigation of cayenne, capsicum and red pepper, we have held that cayenne pepper is the same as capsicum and to be of the small species; that red pepper is the dried ripe fruit of any species of pepper.

We have found but few samples labeled cayenne or capsicum that were of the small species.

The condition of the liquefied phenol during the past year has not been satisfactory. Sixty per cent has been below standard phenol content and a large per cent has been off color.

Some attention has been paid to the examination of chili powders. These were found to be, for the most part, compounds containing in general such ingredients as red pepper, wheat, starch, cumin, black pepper, origanum and salt.

The investigation of coffee with special reference to its volatile principles is being continued. These volatile products, the result of decomposition during roasting, have been found to produce the characteristic and pleasing flavor of coffee, and, to a considerable extent, its physiological effect.

Special analyses, research work on new qualitative and quantitative methods, and investigation of the poisonous fruit of the Kentucky coffee bean (*Gymnocladus dioica*) have filled the interim between samples.

L. E. SAYRE, *Analyst*.

The annual report of the director of the water and sewage laboratories was then made by Prof. C. C. Young, director, and upon motion the section of the rules concerning bottled waters was changed by inserting the words "or furnished," which rule as changed reads as follows:

"2. Bottles or other containers in which water is sold or furnished to domestic consumers must be sterilized before refilling. The method of sterilization shall be passed upon and approved by the water and sewage laboratory of the State Board of Health, subject to approval by the State Board of Health."

Dr. Lydia A. DeVilbiss, the director of the Division of Child Hygiene, then made her annual report for this division, which is made a part of the minutes, as follows:

FIRST ANNUAL REPORT OF THE DIVISION OF CHILD HYGIENE, JULY, 1915-'16.

The statute creating the Division of Child Hygiene included in the outline of duties the "issuance of educational literature on the care of the baby and the hygiene of the child, the study of the causes of infant mortality, and the application of preventive measures for the prevention and the suppression of the diseases of infancy and early childhood."

During the first year the attention has been directed almost wholly to the preparing and issuing of educational literature and to the application of measures of prevention of morbidity and mortality among young children.

The division has furthered and originated many methods for bringing child hygiene to the attention of the general public and to the especial attention of mothers of little ones. Among these methods are child hygiene exhibits, certified babies, child hygiene stations, mothers' study courses and correspondence courses in child hygiene, junior health officers, little mothers' leagues, mothers' confidential registry, intercounty contest, and methods for the coöperation of existing agencies working for children with the State Division of Child Hygiene. These methods are explained in detail in the forthcoming bulletin.

It was early decided that it was best to work along many lines rather than along one or two, so that during the second year we can concentrate on the methods that have proved themselves to be highly practicable and discard those that are not.

The literature issued includes:

Baby Bulletin, July, 1915 20,000

Reprints:

Infant Feeding after First Year..... 10,000
 Bottle-feeding 10,000
 Habits, Training and Discipline 10,000
 Fresh Air and Rest 10,000
 Bathing and Care 10,000
 Clothing 10,000

60,000

Infant Feeding after First Year (second edition) ... 40,000
 Score cards (American Medical Association) 10,000
 Baby certificates 10,000
 Posters—12, of 5000 each..... 60,000
 Press letters (average publication in 60 newspapers), 37
 Child hygiene station blanks 1,000
 Little mothers' league certificates 1,000
 Little mothers' league buttons 5,000
 Junior health officer blanks 1,000
 Governor's trophy pamphlet 10,000
 Manual of child hygiene, June, 1916 30,000

The July *Bulletin* was exhausted in less than three months, so 10,000 each of six reprints covering the essentials of baby care were printed. Of these, "Infant Feeding after the First Year" was exhausted some time ago and an additional 40,000 were issued. As soon as the rest of the reprints are distributed new material will be added and new editions printed.

In addition to the distribution of literature, the division has averaged writing nearly twenty-five letters daily. The director personally delivered ninety-five lectures.

Nearly 3000 babies have been examined and certificates issued.

Requests for posters have come from every direction. Several city and state boards of health have asked for the illustrations and permission to reproduce the posters, giving credit to Kansas.

The little mothers' league and junior health officer material was gotten ready rather too late in the year to organize many schools, but with the opening of school next fall it is expected that many schools will be supplied.

Baby weeks in Kansas were a tremendous success and gave the interest in child hygiene a great impetus. More than 400 celebrations were held in this state alone, which is the greatest number held in any one state. Those celebrations ranged from a single sermon by a local pastor to an entire baby week with baby examinations, exhibits and educational programs.

For the second year arrangements for two investigations are already under way. The better known causes of infant mortality in Kansas, it may be presumed, are much the same as in other states, so it was thought best not to go over ground which has already been covered by many surveys, but to conduct investigations along new lines and about which little has been discovered.

The first investigation in connection with the National Children's Bureau will investigate infant mortality as it relates to rural conditions surrounding the young child and its mother.

The second survey in connection with several national organizations devoting their attention exclusively to this line of work will investigate the question of infant mortality as related to the feeble-minded, the insane, the defective and the dependent.

Unfortunately it is not possible to state in this report a definite lowering of the infant mortality rate or a large number of babies' lives saved as a result of the first year's work of the Division of Child Hygiene. This is partly because this work has been done in six months of each of two years, for which the total results have not yet been tabulated, and because infant mortality rates to be of practical value should be averaged for periods of not less than four years.

In the last few years the infant mortality rate for Kansas has been decreasing. Contributing to this decrease have been the better enforcement of birth registration, pure food and drug regulations, stricter quarantine of communicable diseases, and, perhaps more than all, the general awakening to the importance of morbidity and mortality rates, following the continuous campaign conducted by the State Board of Health.

To this now is added the special work of the Division of Child Hygiene. The effect of all this effort will be cumulative and the results at the end of the four years, it may be safely predicted, will show a striking contrast to preceding periods.

Respectfully submitted. LYDIA ALLEN DEVILBISS, *Director.*

Upon motion, the question of insisting upon the payment of fees on foreign bottled waters that are not now being imported owing to the European war was left to the judgment and discretion of the director of the water and sewage laboratories.

Prof. C. A. Haskins, engineer, reported the insanitary conditions that prevail in the terminal yards at the Kansas City, Mo., union station after watering trains. The engineer was directed to give a written report of the conditions found to the secretary, and the secretary was instructed to report such conditions to the Surgeon General of the United States Public Health Service.

The epidemiologist gave a verbal report of his work, with the statement that a detailed report of the division would be found published in full in the *May Bulletin*.

The election of officers was then ordered, which resulted as follows:
President, Dr. C. H. Ewing.

Vice president, Dr. William M. Earnest.

Secretary for the ensuing four years, Dr. S. J. Crumbine.

Bacteriologist for the ensuing year, Dr. S. E. Greenfield.

Engineer for the ensuing year, Prof. C. A. Haskins.

Assistant engineers, Mr. Jos. Welker and Mr. F. M. Veatch.

The members of the advisory board were all unanimously reelected.

The following persons were elected as conferees: Mr. J. W. Kimball and Mr. J. F. Tilford.

The secretary was instructed to select a third member of the conferees who would, in his judgment, seem to be most appropriate and suitable to serve in such capacity.

The standards committee made their report, which was to the effect that they recommended to the Board that Circular Letter No. 8, issued September 17, 1907, under the caption "Alum and Adulterant," be rescinded, whereupon the Board by unanimous vote affirmed the recommendation of the standards committee, and Circular Letter No. 8, found

on page 66 of the fourth edition of the "Kansas Food and Drugs Laws, Rules and Regulations," is rescinded.

A verbal report of the work of the Division of Vital Statistics was then made by the state registrar, and upon motion was adopted.

The president appointed an auditing committee to audit the accounts of the state registrar, which committee is composed of Doctor Walker and Doctor Ewing.

The report of the Division of Foods and Drugs was then made by Mr. Congdon, and same was ordered placed on file.

Mr. Congdon raised the question of extra compensation for his work as hotel commissioner. The motion prevailed that the president appoint a committee of three to investigate the matter and file their report with the governor for such action as the governor may see fit to take; whereupon the president appointed Doctors Lerrigo and Coburn, and Mr. Lock, the attorney.

Dr. C. H. Lerrigo then made report of the meeting of the Secretaries of the State Boards of Health with the Surgeon General, at Washington; also of the meeting of the State and Provincial Boards of Health, both of which he attended as the representative of the Kansas State Board of Health. The report follows:

REPORT

Of Fourteenth Annual Conference of State and Territorial Health Authorities with United States Public Health Service at Washington, D. C., May 15, 1916.

The conference was held at the office of the Surgeon General and was in charge of Assistant Surgeon General Kerr. Twenty-nine states and territories were represented. Perhaps the subject most vital to Kansas was that of rural sanitation, which was presented by Dr. W. S. Rankin, of North Carolina. It was recommended that the Surgeon General appoint a committee to define the limits of the activities that might properly come within the field of a bureau of rural sanitation and to define methods and standards for such work.

A subject of great interest was the feasibility of a morbidity registration area. It was agreed that the obstacles to this work are very great, yet such registration is practical within certain limits.

An attempt to have the conference express a conviction that the cause of pellagra was improper diet was diverted into a resolution to the effect that all present investigations tend to show the beneficial influence of properly balanced diet in the prevention and cure of this disease, and the conference calls the attention of health officers to the desirability of working in this direction.

A discussion as to the health of school children brought the opinion that health authorities should control the sanitation and hygiene of schools, but that the teaching of hygiene must remain under the supervision of educational authorities, excepting that departments of health might properly recommend courses of instruction.

A demonstration of the work done at the hygienic laboratory was given, showing the many lines of health activity in which the United States Public Health Service is engaged.

REPORT

Of Thirty-first Annual Meeting of the Conference of State and Provincial Boards of Health of North America.

This meeting was held at the New Willard Hotel, Washington, D. C., May 16, presided over by Dr. Ennion G. Williams, of West Virginia.

To a certain degree the work covered the same ground as that of the conference with the Surgeon General, but the discussion bore a different aspect.

The transactions of this conference are printed annually and can be read by anyone wishing to make them a subject of careful study. My opinion is of most value to you as it compares the work we do in Kansas with that accomplished in other states.

It is very evident that the work of any state is controlled rather definitely by the appropriations it receives, and we all know that we are not in the first rank in that respect. We need have no modesty, however, about claiming first rank in every other particular. There were present at the meeting officers of every rank, and very good men, too, but I saw none that would tempt us to turn away from Kansas for a choice. The other states have copied our literature and our methods to no slight degree. The posters issued by the Kansas Board are reproduced with a faithfulness that shows how supremely satisfactory they must have appeared in the eyes of neighboring state officials. I brought back some hints which I was able to turn over to Doctor Crumbine and Doctor Sippy with profit, but on the whole, we can feel that the chief thing Kansas has to do is to retain her place in the procession.

The special committees for the inspection of the various state institutions then made their reports.

Doctor Aldrich then made a brief statement concerning the proposed postgraduate course in medicine to be brought to the physicians in their own home communities, which question was generously discussed by the members of the Board.

No further business appearing, upon motion, the Board adjourned.

The following bills were audited and allowed:

Dr. O. D. Walker	\$17.01
Prof. E. H. S. Bailey	1.98
Dr. J. F. Axtell	19.90
Dr. Clay E. Coburn	23.30
Dr. C. H. Ewing	16.24
Mr. M. O. Lock	11.58
Dr. C. H. Lerrigo	15.00
Dr. W. M. Earnest	20.30
Dr. O. C. Baird	15.48
Dr. Jessie T. Orr	50.82
Prof. L. E. Sayre	2.03
Prof. J. T. Willard	3.28
Dr. H. L. Aldrich	18.97
J. A. Kimball	6.61
Prof. C. A. Haskins	2.23
Prof. C. C. Young	2.33
J. F. Tilford	11.90

**Report of Division of Communicable Diseases and
Sanitation, 1916.**

TOPEKA, KAN., June 2, 1916.

To the Members of the State Board of Health:

The writer has divided his report for the biennium into four parts, thus covering, in a measure, the division of the duties which fall to his division, and in each of which he has tried to give a brief description of its activities in these lines during the past biennium.

I. LOCAL HEALTH ORGANIZATION.

Kansas has a population of 1,762,545. For purposes of local health control the State Board of Health recognizes 105 local county boards of health and 10 boards of health in cities of the first class, with whom the State Board holds direct communication. In addition many cities of the second and third class maintain boards of health with whom communication is maintained through the county health officer of their respective counties. It is obviously impossible, without a considerable force strategically located, or without a large expenditure of state funds, for any state board of health to maintain direct supervision over every case of communicable disease. Such a force and such an expenditure can never be hoped for by any state board, nor is it believed that, if it were possible, it is the part of wisdom for any state agency to attempt to pursue a policy of direct control. Our democratic form of government presumes that wherever local self-control is possible by individual political units they shall be granted that power, and it is only when they fail to exercise it properly that the state is justified in intervening. This is true in the preservation of law and order and in the legal protection of the rights of citizens. Clearly the control of communicable disease, then, is a duty of local communities or political units of a state, and it is only when they fail to perform this duty that the State Board of Health is justified in intervention. Communicable disease is no respecter of political boundaries, and no one unit may ignore the prevalence of disease in its jurisdiction without endangering the health and lives of the citizens of adjoining units. To correlate the work of these units, or local boards of health, to promote uniformity of effort among them, to keep them advised of prevailing conditions in the various units, and to advise them of procedure in such matters as demand more expert and specific knowledge than they may be able to command for themselves has always been recognized as functions of the State Board of Health. Unfortunately many of our counties, or local units, fail of a proper appreciation of their responsibilities, and there is a tendency on the part of too many of them to believe that if they do neglect their duties in such matters they may safely look to the State Board of Health to assume these duties and thus relieve them of the expense, labor and inconvenience. The policy of such local boards has been to ignore the question of qualifications in their health officers, or to allow them such meager compensation as to nullify the performance of duties required of them by law.

To correct such notions of policy and to bring local boards and local health officers to a realization of their duties as prescribed by state law has been the aim of this division, through which the principal communication with these boards is conducted. Wherever it has been possible to avoid interference with local authority, or to compel local authority to assume full control of communicable disease, this has been done. At the same time it has not been the policy of the division to refuse advice or assistance wherever it has seemed necessary, as detailed reports on file will show. In short, it has been the intention, as it has always been with this Board, to dignify the work of the local health officer, and by encouraging increased compensation and increased authority for him, to increase his effectiveness to such an extent that the state will be relieved of the expense and the anxiety of disease control in his community. This is being accomplished in a great many counties, and it is manifestly unfair to these counties and their health officers who are trying to accomplish the control of disease to have their efforts vitiated by a policy of neglect or penuriousness of unprogressive units adjoining them. So far, legislative efforts to eliminate the inefficient man, to prescribe specific qualifications as necessary to the appointment of local health officers, and to afford ways and means for providing him with sufficient compensation, either by counties or on the district plan, have failed. It is hoped that the coming legislature will not fail to recognize and correct some of these defects or to provide some such plan as was recommended by the Commission on Public Health to the last legislature. Until some such plan, or a plan similar in its aims, is adopted, the state must continue to observe, as it has in the past, much duplication of effort, much waste of efficiency and public funds and slow progress in the control of disease and in sanitation.

II. CONTROL OF COMMUNICABLE DISEASE.

As will be noted by the epidemiological report of this division in a special bulletin, there has been marked improvement in the reporting of disease. This has necessitated an unusual amount of detail work and correspondence, and with the limited amount of clerical assistance it has been somewhat difficult to accomplish all that the division would wish to do. During the biennium there has been issued by the one stenographer in this division 4056 personal typewritten letters, 5875 form letters to health officers and health boards, 2000 special inquiries to physicians, and 2000 personal post-card missives. No account has been kept of pamphlets and literature or of packages sent out. In addition to these personal communications, there was issued 2682 letters mailed in survey work, 3250 special letters of instruction to physicians in the reporting of disease, and 2850 special packages to physicians containing silver nitrate solution, for which it was necessary to employ extra clerical help.

When it is considered that the division has collected and tabulated 39,413 morbidity reports, and has checked, for comparison with our morbidity reports, 32,000 card reports made by physicians to the collaborating epidemiologist of the United States Public Health Service, that the stenographer assigned to the division is able to give approximately only

80 per cent of the time to the work of the division (the balance of time being employed in other work of the Board of Health), and the many calls on the head of the division for work outside of the office, it may be noted that this has made a huge demand on the time of your epidemiologist for clerical work—time which might well have been employed in administrative work, research work and investigation, while a less expensive employee might have been utilized in much of the office work. In other words, there is a great need for a special morbidity report clerk who can devote his entire attention to the details of collection and filing of morbidity reports—a work which is rapidly increasing in importance and volume. Of course the present appropriation hardly admits of this plan; hence in the interest of true economy and efficiency the chief of this division strongly urges an increase of the present appropriation for the work of the division during the coming biennium.

By devising a system of special duplicate reports the work of the bacteriological laboratory has been brought in closer communication with the division, and it is now so arranged that your epidemiologist receives an immediate daily report on all specimens to the laboratory. This enables your epidemiologist to receive notification as to cases to be reported, or to be released from quarantine, as promptly as the attending physician, and to thereby inform local health officers, thus preventing cases from escaping their attention or from being too early released from quarantine. Reports on specimens in which rabies is suspected are directly communicated to the live-stock sanitary commissioner, so that he is enabled to immediately take steps for the prevention of the spread of the disease among live stock in localities where positive evidence of the infection is given.

There has also been arranged an exchange of reports with the state water and sewage laboratories. By this the division is promptly informed of the variability in the conditions of public and private domestic water supplies throughout the state, while the laboratories receiving weekly reports on all water-borne diseases in various localities are enabled to devote their special attention to the water supplies in localities where such diseases exist and to immediately investigate questionable sources, so that improvements for the protection of public health may be made.

There is a rapid improvement in public sentiment in the demand for the strict reporting, isolation and control of cases of communicable disease. As has been noted in previous quarterly reports, our present quarantine law is inadequate at times to afford proper control. While it was evidently the intention of the legislature to provide penalties for breach of quarantine, yet the wording of the law is such that unless closely adhered to in every detail many persons escape prosecution and punishment through appeal to absurd technicalities. The enactment of regulations to correct defects in the law is always open to question by the courts, and while such regulations have always been upheld as a matter of public safety, yet there is strong need for a revision of our present quarantine law and the enactment of a specific law governing the reporting of communicable disease. Communities and individuals are often

unable to comprehend the technical difficulties of enforcement of the present law, and it is markedly unfair that the State Board of Health and local boards of health should continue to suffer unjust criticism for seeming inactivity or for a course which they are often forced to pursue through the failure of our legislature to provide adequate and proper enactments.

As has been noted in the full epidemiological report, the vast majority of tuberculosis comes to the attention of physicians and health authorities in the later stages of the disease. Indigent cases of this class are not admissible to the State Sanatorium for the treatment of these cases. Only counties of 60,000 to 75,000 population are permitted to provide local sanatoria. Clearly it is impossible for the state to care for all these cases under present conditions, and if it were the wisdom of the state in assuming the responsibility and expense of it is open to question. Many counties of smaller population would be willing to assume the care of their own cases were they permitted so to do. An amendment to the present law permitting any county to establish local sanatoria if they wish to do so is advisable and urged.

There is another class of cases of which some special mention should be made and for the care of which some provision for control should be made. Since your epidemiologist may be accused of being too enthusiastic in his zeal in such matters, he herewith submits an open letter which explains the situation in mind much more clearly than he could express himself. Coming, as it does, from one who stands high in the public regard of the state and who has made original and practical investigation, it merits the serious attention of every citizen and every legislator.

RUSSELL, KAN., June 23, 1916.

To the Editor of the Capital:

A few days ago, in the short-grass country, a city marshal motored into the county seat and said to the sheriff:

"Here's a prisoner for you, sent by the police judge to your county jail, for drunkenness."

The sheriff took the man to the jail, which had already several prisoners. The marshal started for home. In an hour or two the sheriff, in much perturbation of mind, hunted up the district judge and county attorney.

"What shall I do?" he said. "That fellow that they have just turned over to me is badly diseased. He isn't fit to put with those other prisoners—fairly clean, decent men. I don't want him to infect them. I don't want him in the building, nor to touch the bedding, towels, furniture or anything else in the jail. It isn't right to endanger the other prisoners or expose them to such fearful risk, to say nothing of my family and those who have to do with the prisoners, since the jail is part of the edifice which is the sheriff's residence. There is no hospital or place of detention or of quarantine for such cases. Neither the state nor county nor any city has provided to take care of such a menace to society, although one of the worst possible. I have no place to put him."

And so until late in the night the three public officials sat and discussed how to handle this case.

Yet it is but a somewhat enlarged sample of what has to be met almost daily in many if not most counties and larger cities. If the victim had tuberculosis, smallpox, typhoid, scarlet fever, measles or one of several other ailments, the county health officer would quickly take hold. If he did not the air would be vibrant with fierce denunciations by indig-

nant citizens who did not want their families, friends, schools, community and themselves menaced by such contagion.

But because it is the red plague that takes hold of a person everybody holds his peace, sits discreetly silent and lifts no hand to stay the spread of the awful curse. Every day uncured victims are run out of the towns, turned out of the calaboozes and jails and passed on to some other community. If they have the money to pay they may contaminate any hotel, rooming house, boarding house, railway coach, sleeping car or other place open to the public.

Yet whenever a bill is offered in the legislature designed to protect society against this as against little things (relatively speaking) like smallpox, tuberculosis or children's diseases, the matter is laughed or frowned, sneered or joked out of sight and mind. Such matters never get out of committee. If this plague is named with others in the bill, it is eliminated. If named alone, it is entirely ignored and killed in committee. Few members dare offer a bill on the subject unless with a prefix, "introduced by request," and then it starts with a sort of odium upon it.

The ostrich is one bird that hopes to escape observation by hiding its head in the sand. There are others. But still people will remain who do not believe that all is well because society refuses to see or mention the red plague.

J. C. RUPPENTHAL.

As contemplated by your Board, it has been the policy of this division to be ready at all times to assist communities and local health boards in discovering the sources of epidemics or disease and to offer advice in the control of same. Wherever it was felt that communities or local boards were able and should meet their own difficulties, trips and useless expense have been avoided. Still there have been many calls for assistance which it was felt should have been responded to, but which responses have been impossible by other more important demands on the time of your epidemiologist. By special reports on file with the secretary it may be seen that prompt results in the control of disease has been effected in the majority of instances, results which were made possible by local response to the advice of your representative, representing as he did a Board and its secretary of whom both enjoy public confidence and prestige. The following special investigations have been made:

Disease Investigations.

Date.	Subject.	Place.
1914—July 4.....	Poliomyelitis	Phillipsburg.
July 12.....	Typhoid fever	Winfield.
July 19.....	Typhoid fever	Moline.
Sept. 4.....	Typhoid fever	Wichita.
Sept. 13.....	Poliomyelitis	St. Francis.
Oct. 11.....	Typhoid fever	Edna.
Dec. 1.....	Typhoid fever	Labette county.
Dec. 24.....	Smallpox	Belle Plaine.
1915—Jan. 6.....	Trachoma	Mayetta.
Jan. 26.....	Smallpox	Harris.
Feb. 12.....	Scarlet fever	Quinter.
Mar. 12.....	Scarlet fever	Jamestown.
April 15.....	Poliomyelitis	Haviland.
April 15.....	Trachoma	Circleville.
April 16.....	Smallpox	Hugoton.
April 27.....	Smallpox	Linwood.
July 14.....	Typhoid fever	Osawatomie.

Date.	Subject.	Place.
1915—July 29.....	Typhoid fever	Wichita.
Aug. 3.....	Diphtheria	Kirwin.
Sept. 2.....	Diphtheria	Meriden.
Oct. 31.....	Smallpox	Webster.
Nov. 13.....	Whooping cough.....	Westmoreland.
Nov. 28.....	Typhoid fever.....	Osawatomie State Hospital.
Dec. 1.....	Diphtheria	Wellington.
Dec. 4.....	Smallpox	Mound Valley.
1916—Jan. 26.....	Scarlet fever.....	Troy.
Feb. 8.....	Scarlet fever.....	McFarland.
Mar. 7.....	Typhoid fever.....	Osawatomie.
April 23.....	Typhoid fever.....	Osawatomie.

Resume:

Typhoid fever	10
Smallpox	6
Diphtheria	3
Scarlet fever	4
Poliomyelitis	3
Whooping cough	1
Trachoma	2
Total	29

III. SANITARY INVESTIGATIONS.

Most of the investigations in regard to communicable disease control involved, of course, sanitary inspections. However, there have been special instances in which trips and actual inspections by a representative of your Board became necessary. Herewith is given a list of such made during the biennium:

Sanitary Investigations.

1914—July 22.....	Inspection city water supply.....	Lawrence.
Nov. 17.....	Inspection schools	Atwood.
1915—July 10.....	Inspection slaughter house and meat market	Neodesha.
Aug. 25.....	Complaint relative to dead animals in river	Neodesha.
Sept. 10.....	Flood conditions	Iola.
Sept. 11.....	Flood conditions	Fort Scott.
Sept. 20.....	State school	Winfield.
Sept. 21.....	Educational institutions	Wichita.
Oct. 3.....	Results sanitary survey	Fredonia.
Dec. 6.....	State Normal	Pittsburg.

Total (not including surveys), 10.

In all minor instances it has been the policy of this division to place the responsibility for the inspection and the abatement of nuisances with the local board of health or health officer, to whom all complaints are referred and in which we are always willing to offer advice and suggestions.

Your Board at the June, 1915, meeting, as you will remember, amended the regulation regarding the sanitary inspection of schoolhouses by local health officers, and made this inspection mandatory. Some health officers complained that no such work was contemplated when they assumed their duties, and no provision for compensation for performing this duty of school inspection had been made in their contracts. Some unprogressive

county boards also demurred to this regulation and expense of inspection, failing to appreciate that the school is the huge factor in the transmission of disease, and that it is the duty of the county board of health to furnish to school boards every possible assistance by way of advice in the improvement of sanitary conditions in the schools, to promote the health and safety of little ones placed in their care. It would seem that human life and health, and especially that of little children, would justify the little expense of this inspection and that public officials should require no coercion in such matters. On submitting the legality of the question of the powers of your Board to enforce this regulation, Attorney-general Brewster returned the following reply:

TOPEKA, KAN., July 27, 1915.

John J. Sippy, M. D., State Epidemiologist:

DEAR SIR—Answering your inquiry in regard to the resolutions of the State Board of Health, dated June 8, 1915, relating to the inspection of schoolhouses, etc., will say:

Your resolution requires that all schoolhouses be thoroughly cleansed during the vacation and be disinfected when known to be infected, and that the source of water supply be inspected and the privies be placed in sanitary condition, and that the enforcement of these provisions be a part of the duties of the city health officers and of the county health officers. You inquire whether or not the State Board of Health can compel county boards and county health officers to obey its regulations; also, whether the county boards of health can be required to pay additional compensation for the performance of this additional duty by the county health officer, and whether school boards are required to obey such regulations of the State Board of Health.

The State Board of Health has general supervision of the health of the citizens of the state. It has power to make, adopt and publish such rules as may be necessary to make the law effective. The Board is required to make sanitary inspection of such places and localities as they deem advisable, and it is the duty of the Board to take such action and adopt and enforce such rules and regulations as the Board deems sufficient in preventing the introduction of any infectious or contagious disease to or within the state. These provisions are all found in sections 8028 and 8030 of the General Statutes of 1909. Section 7033 provides that the county commissioners shall act as local boards of health and shall elect a physician who shall be the health officer of such county board of health. Section 8030 requires the health officers to perform the various duties and "such other duties as this act, his local board or the State Board of Health may require of him."

In my judgment, the above provisions of the law authorize the State Board of Health to use its sound discretion in determining what reasonable things must be required of public officers and other persons for the purpose of preventing the spread of disease within the state. I see no reason why the requirements of the resolutions of June 8 are not reasonable or why they do not tend to preserve the public health, and therefore I think that the provisions of these regulations as adopted by the State Board of Health can compel the county boards of health and county health officers to obey the regulations.

Section 8034 also provides that the county health officer shall receive for his services such reasonable compensation as the board of health may allow, to be paid out of the county treasury. I think this means that it will be proper for the county commissioners to allow and pay the county health officer for the duties which he may perform under this regulation, and if he has no contract whereby he has undertaken to perform these duties, as well as others, he can recover from the board of county commissioners such amount as will be reasonable compensation for his work under this regulation.

Yours very truly,

S. M. BREWSTER, *Attorney-general.*

Reports of personal inspections by county health officers of school-houses were made to this division. Many health officers made inspections in their jurisdictions but failed to make reports. It is hoped a better understanding of the regulation will result this year. Certainly results of proper inspections have more than compensated counties in the expense, in the decreased prevalence of communicable disease and in increased efficiency of school work.

School Inspections.

<i>County:</i>	<i>Inspector:</i>	<i>Number of inspections.</i>
Anderson	E. F. Metcalf, D. M. Craig and R. C. Splawn..	92
Atchison	Chas. W. Robinson.....	64
Brown	W. W. Nye.....	90
Butler	F. A. Garvin.....	162
Chase	J. Hinden	67
Clay	E. N. Martin.....	100
Cowley	F. A. Kelley.....	137
Doniphan	R. E. Allen.....	74
Franklin	F. C. Herr.....	..
Jackson	Chas. M. Siever.....	104
Jefferson	J. M. Marks.....	98
Lane	R. B. Mullin.....	38
Leavenworth	J. L. Everhardy.....	82
Morton	A. T. Coffman.....	..
Nemaha	W. H. Heuschele.....	125
Osborne	A. C. Dillon.....	101
Rawlins	Henry Wimer	92
Reno	C. S. Evans.....	118
Republic	Jay C. Decker.....	..
Rush	J. E. Atwood.....	74
Sheridan	L. H. McCartney.....	..
Sherman	B. Ferguson	63
Smith	D. W. Relihan.....	129
Sumner	T. H. Jamieson.....	179
Wallace	W. W. Carter.....	25
Wilson	E. C. Duncan.....	87
<i>City:</i>		
Topeka	H. B. Wood.....	22
Wichita	Leon Matassarini	19

IV. EDUCATIONAL.

In common with all other divisions, this division has assisted in the distribution of educational literature. In addition it has been charged with the distribution of lantern-slide lectures and moving-picture films. Arrangements have been made for sending out slide lectures, some fifteen in all, each consisting of thirty-five to fifty slides and accompanying lectures, and four films, to any resident of the state competent and willing to exhibit them and deliver lectures. Applications are made to the secretary of the Board, and the only charges made are for carriage and replacement of slides broken in transit.

As representative of your Board and its secretary, your epidemiologist has been called upon to deliver public health lectures at the following points during the biennium:

Public Health Lectures.

Augusta. July 9, 1914. Butler County Medical Society and invited citizens (open meeting). Attendance, 100.

Conway Springs. July 11, 1914. Sumner County Medical Society and invited citizens (open meeting). Attendance, 300.

Winfield. July 20, 1914. Commercial Club. Attendance, 250.

Council Grove. July 23, 1914. Citizens at Morris county fair. Attendance, 400.

Salina. October 22, 1914. Golden Belt Medical Society. Attendance, 45.

Lawrence. November 21, 1914. Conference State Association of Charities and Corrections. Attendance, 150.

Lawrence. March 25, 1915. State Association of Child Welfare. Attendance, 100.

Wabaunsee. March 31, 1915. Community League. Attendance, 200.

Fredonia. April 24, 1915. Commercial Club. Attendance, 75.

Lawrence. June 10, 1915. Mass meeting. Attendance, 75.

Winfield. July 30, 1915. School board and Commercial Club. Attendance, 75.

Galena. August 11, 1915. Cherokee County Medical Society. Attendance, 50.

Cottonwood Falls. August 19, 1915. County School Board Association. Attendance, 125.

Arkansas City. August 19, 1915. Cowley County Medical Society. Attendance, 25.

Wellington. August 20, 1915. Summer chautauqua. Attendance, 500.

Independence. August 27, 1915. County School Board Association. Attendance, 150.

Erie. August 28, 1915. County School Board Association. Attendance, 150.

Atchison. September 3, 1915. County School Board Association. Attendance, 200.

Winfield. September 21, 1915. City council. Attendance, 25.

Emporia. November 16, 1915. Current Topics Club. Attendance, 100.

Fredonia. December 3, 1915. Open meeting. Attendance, 400.

Neodesha. December 4, 1915. Open meeting. Attendance, 600.

Herington. February 11, 1916. Parent-Teacher Association. Attendance, 45.

Dodge City. February 26, 1916. County School Board Association. Attendance, 250.

Lyons. March 24, 1916. County School Board Association. Attendance, 300.

Abilene. April 1, 1916. County School Board Association. Attendance, 200.

Iola. April 10, 1916. Current Topics Club. Attendance, 85.

In addition four public health talks were given in Topeka with a combined attendance estimated at 1000. Total number of lectures given, 31; total attendance, 5975.

Full reports and résumé of all work and trips in the duties of the division have been filed with the secretary.

JOHN J. SIPPY, M. D., *Epidemiologist.*

Annual Report of the Engineer, 1915.

To the Kansas State Board of Health:

GENTLEMEN—During the past year waterworks and sewerage conditions have made considerable advancement in Kansas, and the problem is now becoming one of operation of plants already built rather than the construction of new plants.

WATER SUPPLY.

During the year new waterworks plants have been constructed in the following cities:

Alton. Well water supply.
Burrton. Well water supply.
Little River. Well water supply.
McCune. Deep well water supply.
Natoma. Well water supply.
Protection. Well water supply.
Jetmore. Well water supply.
Nickerson. Well water supply.
Douglas. Surface supply from Walnut river.

Filter plants have been constructed at Council Grove, Douglas, Garnett (reconstruction of old plant), Marysville, Olathe, and Washington. New plants are under construction at the present time at Fredonia and Osawatomie.

A great many cities have extended or enlarged the source of their water supply, as follows:

Cottonwood Falls. Ground water in place of previous spring water and Cottonwood river supply.
Ellis. New well.
Goodland. Additional wells.
Herington. Springs supplanting well water supply.
Holton. Springs supplanting well water and creek water supply.
Mankato. Additional wells.
Marysville. Surface water supply from Blue river supplanting wells.
Newton. Additional wells.
Pratt. New wells.
Russell. A well water supply developed on site of reservoir. Impounding reservoir constructed two years ago has failed as a source of supply.
Sabetha. Wells. An impounding reservoir is contemplated for the city at the present time.
Wamego. Additional wells.
Wellington. Well water supply developed at Mayfield.
Westmoreland. Additional wells.
Wilson. Additional wells.

Many of the cities having surface water supplies or inadequate ground water supplies are considering the construction of surface water supplies with adequate treating facilities for furnishing pure water. These are as follows:

Caney. Plans for a modern filter plant have been approved and the city expects to issue bonds under the utilities law.

Beloit. Ground water supply developed in 1908 has been failing for

some time, and the city officials are contemplating a modern plant, taking water from the Solomon river.

Emporia. The Commercial Club is still considering the advantages of the two rivers as a source of supply.

Fort Scott. Bonds to the amount of \$30,000 have been voted by the city, and the city officials are trying to decide which type of plant to install before going further. This plant will probably be constructed this year.

Humboldt. The well supply developed in 1912 has been ruined by waste from an oil refinery, and the city is now considering the construction of a modern filter plant, using the Neosho river as a source of supply.

Manhattan. Bonds for a water-softening and iron-removal plant were rejected in the April election. The city officials are prospecting for additional ground water, but if it is not found it is possible that the present supply will be retained and the softening and iron-removal plant will be constructed.

Ottawa. On account of the inability of the coagulating and sedimentation basins to handle the turbid waters of the Marais des Cygnes river, plans are on foot to secure a modern filtration plant.

Sabetha. A filter plant will be constructed to treat the water from the new impounding reservoir. An election has been called to consider issuing bonds for \$70,000 to erect the plant.

SEWERAGE.

Contracts have been let for complete sewer systems at Valley Falls and Osborne. Plans are being prepared by the consulting engineers for sewer systems at Augusta, Clyde and Norton. These three systems will probably be built during the coming year.

The following cities have or are about to construct extensions to their present sewer systems giving fairly adequate facilities to practically the entire population:

Cherryvale.
Concordia.
Fort Scott.
Hutchinson.
Independence.
Lawrence.

Marysville.
Neodesha.
Olathe.
Salina.
Topeka.

Sewage disposal plants have been constructed or are under process of design or construction at the following places:

Chanute. Consisting of a septic tank and a long out-fall sewer to the Neosho river, in accordance with an order of the Board at its December meeting.

El Dorado. Septic tank, mixing chamber, liquid chlorine sterilization and sludge beds, in accordance with an order of the Board in 1909.

Emporia. A new out-fall sewer and disposal plant.

Fort Scott. Septic tank and sludge beds.

Fredonia. A modern septic tank and an out-fall sewer to Fall river.

Hutchinson. New out-fall sewer to Arkansas river and sewage pumping plant, equipped with screens for removing the coarsest suspended matter. This plant is being built in accordance with an order of the Board in 1909.

VISITS OF INSPECTION.

The following points were visited by the sanitary engineers of the State Board of Health during the past year:

Atlanta. To investigate proposed water supply.

Atton. To investigate proposed water supply. Plant under construction at the present time.

- Altoona.* Investigation of water supply.
- Arma.* Investigation of proposed water supply.
- Augusta.* Test of filter plant.
- Baldwin.* Inspection of water supply.
- Beloit.* Inspection of water supply and investigation of proposed filter plant.
- Belleville.* Inspection of waterworks plant.
- Burlingame.* Inspection of water supply; test of filter plant; inspection of water shed; inspection of sewage-disposal plant.
- Burlington.* Test of filter plant.
- Burrton.* Investigation of proposed water supply, which is under construction at the present time.
- Caldwell.* Inspection of water supply and sewage disposal.
- Caney.* Inspection of water supply; investigation of proposed filter plant. Plans have been prepared and approved for the filter plant at Caney, but the city has not as yet been able to finance the plan.
- Cawker City.* Inspection of water supply.
- Chanute.* Test of filter plant; inspection of water supply and proposed sewage-disposal plant. The plant ordered by the Board at its December meeting is being designed at the present time.
- Cherryvale.* Inspection of water supply.
- Clyde.* Proposed sewer system.
- Coffeyville.* Inspection of water supply; inspection of sewage disposal.
- Columbus.* Inspection of sewage disposal.
- Concordia.* Inspection of sewer extensions and contemplated sewer outlet.
- Cottonwood Falls.* Inspection of proposed water supply from Cottonwood river. Filter plans submitted were not approved. City purchases supply from Strong City at the present time.
- Council Grove.* New filter plant completed. Test of filter plant; inspection of sewage disposal.
- Dodge City.* Inspection of water supply.
- Douglas.* Filter plant completed and tested.
- El Dorado.* Inspection of water supply and sewage disposal. An emergency hypochlorite plant was set up at El Dorado during the month of August to sterilize an emergency supply from the Walnut river. The sewage-disposal plant, consisting of septic tank, sludge beds and a liquid chlorine dosing apparatus, is under construction at the present time.
- Ellinwood.* Inspection of water supply.
- Ellis.* Inspection of water supply.
- Emporia.* Inspection of water supply; inspection of proposed extensions to sewer system.
- Erie.* Inspection of sewage-disposal plant.
- Everest.* Inspection of proposed water supply.
- Florence.* Inspection of water supply. An order was issued by the secretary and the engineer of the State Board of Health for improvements in the water plant at Florence. These improvements have been made, with but one exception, namely, the cover of the standpipe, and that is under way.
- Fort Scott.* Inspection of water supply; disposal of waste from the Fort Scott syrup refinery. Several trips have been made to Fort Scott to investigate the proposed water supply and to attend mass meetings in connection with the water supply.
- Fredonia.* The city of Fredonia is constructing a modern filter plant at the present time. The sewage-disposal plant is being remodeled.
- Garnett.* Inspection of water supply. Extensive changes in the water plant have been made.
- Girard.* Inspection of sewage-disposal plant.
- Goodland.* Inspection of waterworks.
- Great Bend.* Inspection of waterworks and sewage disposal.
- Halstead.* Inspection of sewage disposal.

Hays City. Inspection of sewage disposal and waterworks.

Herington. Inspection of water supply. The Kohl and Will springs, four miles west of the city, have been developed and are now used as the source of supply.

Hiawatha. Inspection of water supply; inspection of sewage disposal. Two modern sewage-disposal plants are contemplated at the present time to take the place of the three outlets, two of which are served by two separate septic tanks and subirrigation systems.

Hoisington. Inspection of waterworks and sewage disposal.

Holton. A spring-water supply is being developed for the city at the present time. The surface supply proposed last year was not accepted.

Horton. Inspection of water supply and sewage disposal. Test of filter plant.

Humboldt. Inspection of sewage disposal; inspection of water supply. A surface water supply is under construction at Humboldt. The well supply developed in 1912 has been affected by waste from the refinery.

Hutchinson. Inspection of sewage disposal. The out-fall sewer to the Arkansas river ordered by the Board in 1909 is at last under construction. All of the sewage from the city is gathered in an intercepting sewer, carried to a common point and pumped into a large concrete out-fall sewer which empties into the Arkansas river.

Independence. Inspection of water-purification plant and sewage disposal; test of filter plant. Independence is now furnished with a filtered water supply of the most excellent quality.

Iola. Inspection of water supply.

Jetmore. Proposed new water supply; inspection of water supply.

Jewell City. Test on filter plant; inspection of water supply.

Junction City. Inspection of water supply.

Kansas City. Test of filter plant.

Kingman. Inspection of water supply.

Larned. Inspection of water supply; investigation of mineral qualities of various waters.

Lawrence. Inspection of water supply. The receiver has developed a sufficient quantity of ground water along the line suggested by the engineer of the State Board of Health in 1913.

Leavenworth. Inspection of water supply.

Little River. Investigation of proposed water supply under construction at the present time.

Lyndon. Test of filter plant; inspection of sewage disposal.

McCune. Investigation of proposed water supply; under construction at the present time.

McPherson. Investigation of sewage-disposal plants.

Madison. Inspection of water supply.

Manhattan. Inspection of water supply and sewerage conditions. The water filtration and softening plant designed last fall was approved by this department. However, it was defeated in the spring election.

Mankato. Extensions of water supply.

Marion. Inspection of water supply and sewage disposal.

Marysville. Test of filter plant; inspection of water supply and sewerage system. Comprehensive sewerage plans for the entire city of Marysville are being developed.

Natoma. Investigation of proposed water supply; under construction at the present time.

Neodesha. Inspection of water supply and trade wastes.

Newton. Inspection of sewage disposal.

Nickerson. Inspection of water supply. Waterworks plant has been completed and is now in operation.

Norton. Inspection of water supply; investigation of sewage disposal. A sewerage system is being designed at the present time for the city.

Olathe. Investigation of sewerage; test of filter plant; inspection of water supply. A complete sewer system is being constructed at the present time.

Onaga. Inspection of water supply.

Osage City. Test of filter plant; investigation of sewage disposal.

Osawatomie. Investigation of proposed water-purification plant. Plans were approved early in 1915, and the plant is under construction at the present time. Inspection of water supply and sanitary conditions at the State Hospital for the Insane.

Osborne. Investigation of proposed sewerage and sewage disposal. Sewer system is under construction at the present time.

Oswego. Inspection of water supply and sewage disposal.

Ottawa. Inspection of water supply.

Pratt. Investigation of proposed water extensions; inspection of sewage-disposal plant. Waterworks plant in this city is being moved to a new location and is being combined with the municipal light plant.

Protection. Permit granted for a new water plant.

Russell. Investigation of water condition.

Sabetha. Investigation of proposed water supply and sewage disposal. The ground-water supply at this city has failed and a proposed impounded reservoir is now being investigated.

Salina. Inspection of water supply and sealing the inlet of the river emergency supply.

Seneca. Inspection of water supply and sewage disposal.

Stafford. Inspection of sewage-disposal plant.

Sterling. Investigation of proposed sewer system.

Strong City. Inspection of water supply.

Topeka. Inspection of sewerage conditions.

Valley Falls. Inspection of water supply. The sewer system and sewage-disposal plant are under construction.

Washington. New filter plant at Washington has been completed. Test of filter plant; inspection of waterworks.

Wellington. Ground-water supply at Mayfield has been developed and pipe line to the city is under construction.

Wellsville. Investigation of proposed water supply.

Westmoreland. Inspection of waterworks plant.

Winfield. Test of filter plant; inspection of sewage disposal at Home for the Feeble-minded.

Yates Center. Inspection of water supply and sewage-disposal plant.

SPECIAL WORK.

Special work has been done by this department during the past year as follows:

Investigation of electro sewage-disposal plants at Durant, Okla., and Beaver Falls, Pa. The Electro-sanitation Company, of Los Angeles, Cal., desired this department to investigate its electrical equipment for treating sewage and sludge beds at Durant, Okla. Accordingly a representative of this department visited Durant and spent about ten days making bacteriological and chemical analyses and such observations as were necessary. The investigation resulted in a decision that the plant was not giving satisfactory service commensurate with the cost involved. Sometime later the same company claimed to have an experimental plant at Beaver Falls, Pa., which was doing much better work than the plant at Durant, Okla., and offered to pay a man's expenses to that point to make an examination similar to that carried on at Durant, in connection with the Ohio and Pennsylvania state boards of health. Accordingly Mr. Welker was sent to Beaver Falls, Pa. Results of the investigation of this plant were also considered unsatisfactory.

Investigation of the National Water Purifying Company's plants at Kaufman and Brownwood, Tex. Along in January Mr. Grant Hornaday,

president of the National Water Purifying Company, appeared before the secretary and the engineer with plans for a water-purifying plant for Fort Scott, and claimed to be able to produce water of an excellent character at extremely low cost of installation and operation, and asked to have a representative of this department investigate two of that company's installations, one at Kaufman, Tex., and one at Brownwood, Tex. Accordingly the writer visited these two cities, accompanied by the mayor and the commissioner of water and light of Fort Scott, and Mr. Hornaday. Such bacteriological and chemical analyses were made as seemed to be necessary. The investigation resulted in the decision that if any installation of this sort was to be installed in Kansas it must be made in connection with liquid chlorine sterilization, since the results did not justify the conclusion that safe water by this method could be obtained from our streams.

A representative of this department accompanied the mayor and city engineer of Chanute to investigate the sewage-disposal plant at Springfield, Mo.

A preliminary investigation of the waste from the sorghum and syrup factory at Fort Scott was made last fall, but owing to the lack of funds this investigation was not completed.

Early this spring many complaints were received from Coffeyville, Independence and Cherryvale regarding the condition of the Verdigris river, and alleged that the Standard Oil Company at Neodesha in discharging refinery waste into the stream had ruined it for domestic supply at the above-mentioned places. Preliminary investigation was made, resulting in a decision that at least part of the difficulty was caused by waste from this refinery. Upon presentation of this fact to the Standard Oil Company, the officers agreed to bear part of the cost for investigating the disposal of the waste at their plant. Accordingly Mr. Hesser was detailed to make a study of the matter. He has just finished his investigations and is writing a report. By a system of aëration and filtration through coke, suggested by the laboratory division, it will be possible to deprive the waste of its objectionable features. Also by heating the waste with steam the same results can be obtained. If the waste is treated in this manner there will be no objections from the cities mentioned above.

MISCELLANEOUS.

Owing to the fact that a great number of sewage-disposal plants are receiving inadequate attention from the city officials, and owing to the fact that this lack of attention is causing many of the plants to deliver an effluent of unstable character, thereby polluting the waters of the state in a manner not intended in the recommendation of the engineer and permit of the secretary, it is recommended that the following be made an order and rule of the State Board of Health and printed with its rules and regulations:

Any company, institution or municipality discharging treated sewage into the waters of the state must make an inspection of the sewage-disposal plant at least once a week, collecting such information concerning its condition or operation as may be deemed necessary by the State Board

of Health. This information to be furnished to said Board on printed forms provided by it once each month, or as often as requested by said Board.

The following orders are recommended for adoption:

Olathe.

WHEREAS, There is in the city of Olathe a residence district within two blocks of the business district not provided with adequate sewers, thereby forcing the residents to construct unsanitary and unsatisfactory privy vaults and cesspools for the disposal of their domestic wastes; and

WHEREAS, The said privy vaults and cesspools are a source of inconvenience to many persons and are a menace to the public health: therefore, be it

Resolved, That the city of Olathe is hereby requested to remedy this condition at once by the construction of such main and lateral sewers as will adequately serve this said district.

McPherson.

WHEREAS, Prior to 1907 the city of McPherson constructed a sewage-disposal plant consisting of septic tank and filter bed for disposing of the sewage of a portion of that city; and

WHEREAS, The design and construction of said sewage-disposal plant is poor and inadequate, so that the effluent from the same is of a noxious and disagreeable character; and

WHEREAS, The effluent of the said sewage-disposal plant is discharged into the ravine near one of the main roads leading out of the city, thus polluting the waters of the state and causing a nuisance and a menace to the health of many persons: therefore, be it

Resolved, That the city of McPherson is hereby ordered to discontinue the discharge of effluent of said plant into the waters of the state on and after the first day of January, 1916; provided, however, that if the said plant be reconstructed and the said reconstruction be approved by the State Board of Health this order shall be null and void.

Council Grove.

WHEREAS, The private company operating the waterworks plant at Council Grove, Kan., known as the Council Grove Water Company, has during the past year constructed a water-purification plant consisting of sedimentation and coagulation basins, coagulant mixing and dosing equipment, mechanical filters and a clear well, in addition to other improvements for treating and furnishing water to the city of Council Grove; and

WHEREAS, Such improvements were constructed in accordance with plans and specifications submitted to and approved by the secretary and engineer of the State Board of Health; and

WHEREAS, Subsequent tests of this plant by a representative of this Board have shown it to be capable of furnishing safe and clean water for domestic purposes: therefore, be it

Resolved, That the same be and hereby is approved by the State Board of Health.

Neodesha.

WHEREAS, Untreated sewage from the city of Neodesha is discharged into the Verdigris river at a point less than ten miles above the waterworks intake of the city of Cherryvale, less than twenty miles above the waterworks intake of the city of Independence, and less than forty miles above the waterworks intake of the city of Coffeyville; and

WHEREAS, The discharge of such sewage pollutes the waters of said river and renders it impure and unfit for domestic use and dangerous to the health of the inhabitants of said cities of Cherryvale, Independence and Coffeyville: therefore, be it

Resolved, That by virtue of the authority vested in this Board by section 4, chapter 382, Laws 1907, as amended by chapter 226, Laws 1909, the city of Neodesha be and hereby is ordered to discontinue the discharge of the said untreated sewage into the waters of the state on and after July 1, 1916, provided that if said sewage be treated in a manner satisfactory to the State Board of Health the discharge of the treated effluent may be permitted.

State Hospital for the Insane at Osawatomie.

WHEREAS, The State Hospital for the Insane at Osawatomie is provided with raw water from the Marais des Cygnes river for drinking and domestic purposes, as well as for sprinkling, washing and fire protection; and

WHEREAS, The city of Osawatomie is at present constructing a modern and efficient rapid sand filter for treating water for drinking, domestic and other uses for the citizens of Osawatomie; and

WHEREAS, The Board of Control of the said Hospital for the Insane has been authorized in a resolution by the last legislature to purchase water from the said city after the said filter plant has been completed on the approval of the governor; and

WHEREAS, The city of Osawatomie, through its mayor and commissioners, is willing to sign a reasonable and just contract for furnishing a pure and wholesome water from the city's plant at a reasonable rate, which from available figures will cost the said Hospital for the Insane approximately only as much as it is costing at the present time to furnish the impure water as it is being furnished: therefore, be it

Resolved, That the State Board of Control be and hereby is ordered to discontinue the furnishing of said impure raw water from the Marais des Cygnes river through its pipes in the buildings for drinking, washing, rinsing of cans or utensils, or for any other domestic purpose, on and after January 1, 1916.

Respectfully submitted.

C. A. HASKINS, *Engineer.*

Report of the Engineer, 1916.

Your engineer respectfully submits the following report of the work of his office since the annual meeting of the Board in June, 1915. It is not the intention to speak in detail of the many matters that have been presented for investigation or action, but only to present in condensed form an outline of the work that has been done.

As heretofore, the principal work of the engineer's office has been connected with the approval of plans for new waterworks or sewerage systems or extensions to old systems, and plans for water purification and sewage treatment. The inspection of waterworks plants and the testing of water-purification and sewage-disposal plants as provided for by the Board presents an ever-increasing amount of work, and with the added duties of the collection of samples of water used for drinking purposes on trains and inspection of the source of supply has come the necessity for additional help. Accordingly, \$900 has been set aside from the laboratory funds for the hiring of an additional assistant engineer. The remainder of his salary has been provided for by the University.

Mr. F. R. Hesser, assistant engineer since September, 1913, resigned March 1, and Mr. F. M. Veatch, at present assistant in the state chemical research division of the University, who has carried on an investigation of sewage-disposal plants in this state for the past two years, under the direction of the Division of Water and Sewage, State Board of Health, is recommended as his successor.

At the June meeting last year an order was issued to the city of Neodesha to construct a sewage-disposal plant. The plans for this work have been completed and approved, and it is hoped that construction will start soon. At the October meeting of the Board orders were issued to the following cities to install temporary sterilization plants for sterilizing the city water supplies: Cedar Vale, Galena, La Harpe, Medicine Lodge, Paola.

Caldwell was ordered to discontinue the use of untreated water from Bluff creek. All of these orders have been complied with except Cedar Vale, Caldwell and Medicine Lodge. Therefore I recommend that these orders be turned over to the attorney-general for action.

Regular weekly analyses are made of practically all the surface-water supplies in the state and sent to the engineer for reporting to the city. The following tabulation shows the result of one year's work. This does not include the analyses made of ground-water supplies, practically all of which are in excellent shape except for local difficulties which arise from time to time. It will be noticed that these results are not always what might be desired or even obtained with the equipment at hand, and we are kept busy explaining to many city officials the operation of the water-purification plants.

TABLE I—CONCLUDED.

	January.	February.	March.	April.	May.	June.
Atchison	E E E	E E E	E E E	G F F	E G E	P G P
Augusta	E E E	E E E	E E E	F F F	F F F	P P P
Burlington	E E E	E E E	E E E	F F F	F F F	P P P
Caney	E E E	E E E	E E E	F F F	F F F	P P P
Cedar Vale	E E E	E E E	E E E	F F F	F F F	P P P
Chanute	E E E	E E E	E E E	F F F	F F F	P P P
Cherryvale	E E E	E E E	E E E	F F F	F F F	P P P
Coffeyville	E E E	E E E	E E E	F F F	F F F	P P P
Council Grove	E E E	E E E	E E E	F F F	F F F	P P P
Douglas	E E E	E E E	E E E	F F F	F F F	P P P
Emporia	E E E	E E E	E E E	F F F	F F F	P P P
Fort Scott	E E E	E E E	E E E	F F F	F F F	P P P
Fredonia	E E E	E E E	E E E	F F F	F F F	P P P
Galena	E E E	E E E	E E E	F F F	F F F	P P P
Garnett	E E E	E E E	E E E	F F F	F F F	P P P
Horton	E E E	E E E	E E E	F F F	F F F	P P P
Humboldt	E E E	E E E	E E E	F F F	F F F	P P P
Independence	E E E	E E E	E E E	F F F	F F F	P P P
Iola	E E E	E E E	E E E	F F F	F F F	P P P
Jewell City	E E E	E E E	E E E	F F F	F F F	P P P
Kansas City	E E E	E E E	E E E	F F F	F F F	P P P
Lansing	E E E	E E E	E E E	F F F	F F F	P P P
La Harpe	E E E	E E E	E E E	F F F	F F F	P P P
Leavenworth	E E E	E E E	E E E	F F F	F F F	P P P
Lyndon	E E E	E E E	E E E	F F F	F F F	P P P
Marysville	E E E	E E E	E E E	F F F	F F F	P P P
Medicine Lodge	E E E	E E E	E E E	F F F	F F F	P P P
Mound City	E E E	E E E	E E E	F F F	F F F	P P P
Neodesha	E E E	E E E	E E E	F F F	F F F	P P P
Olathe	E E E	E E E	E E E	F F F	F F F	P P P
Osage City	E E E	E E E	E E E	F F F	F F F	P P P
Ossawatimie	E E E	E E E	E E E	F F F	F F F	P P P
Oswego	E E E	E E E	E E E	F F F	F F F	P P P
Ottawa	E E E	E E E	E E E	F F F	F F F	P P P
Parla	E E E	E E E	E E E	F F F	F F F	P P P
Parsons	E E E	E E E	E E E	F F F	F F F	P P P
Pleasanton	E E E	E E E	E E E	F F F	F F F	P P P
Russell	E E E	E E E	E E E	F F F	F F F	P P P
Sedan	E E E	E E E	E E E	F F F	F F F	P P P
Washington	E E E	E E E	E E E	F F F	F F F	P P P
Winfield	E E E	E E E	E E E	F F F	F F F	P P P
Yates Center	E E E	E E E	E E E	F F F	F F F	P P P

Waterworks plants have been installed or were under construction during the past year at the following cities:

City and source of supply.	Permit granted.
Alton, wells	Aug. 31, 1914
Arma, wells	Dec. 18, 1913
Attica, wells	Oct. 7, 1915
Burrton, wells	Approved Feb. 17, 1915
Dearing (American Lead, Zinc and Smelting Co.), Onion creek	
Dighton, wells	Aug. 7, 1916
Elkhart, wells	June 5, 1916
Greensburg, wells	April 20, 1916
Little river, wells	Jan. 2, 1915
Natoma, wells	July 31, 1914
Oskaloosa, wells	Oct. 5, 1916
Simpson, wells	Oct. 7, 1915
Spearville, wells	Oct. 14, 1915
West Plains, wells	Not approved

Water-purification plants for existing waterworks are under construction or completed at:

City and source of supply.	Permit granted.
Emporia, Neosho river	May 29, 1916
Fredonia, Verdigris river	May 7, 1915
Humboldt, Neosho river	Nov. 30, 1915
Osawatomie, Marais des Cygnes river	May 5, 1915
Oswego, Neosho river	Jan. 25, 1916

New or additional wells have been constructed at the following cities:

- | | |
|----------------------|-----------------|
| 1. Cottonwood Falls. | 7. Osborne. |
| 2. Ellinwood. | 8. Pratt. |
| 3. Ellis. | 9. Salina. |
| 4. Holton. | 10. Syracuse. |
| 5. Larned. | 11. Wellington. |
| 6. Manhattan. | 12. Wilson. |

Sewage-disposal plants have been constructed for existing sewer systems at:

City, and disposal.	Permit granted.
Chanute, Imhoff tank, Neosho river	Aug. 2, 1915
El Dorado, septic tank, liquid chlorine, Walnut river.....	April 10, 1915
Ft. Scott, septic tank, Marmaton river	Sept. 5, 1914
Fredonia, septic tank, Verdigris river	May 7, 1915
Hiawatha, Imhoff tank, sand filters, dry stream.....	May 29, 1916
McPherson, septic tank, sand filters, dry stream	June 19, 1916

Sewer extensions have been made in about 25 cities. A sewage-disposal plant consisting of a septic tank and sand filters was designed by the Department for the State Tuberculosis Sanatorium at Norton, and is now under construction.

The following is a complete list of waterworks plants in the state. Those in italics use surface water.

Abilene.	Downs.	Kingman.	Oxford.
Almena.	El Dorado.	Kinsley.	<i>Paola.</i>
Alton.	Ellinwood.	Kirwin.	<i>Parsons.</i>
<i>Altoona.</i>	Ellis.	Kiowa.	Peabody.
Anthony.	Ellsworth.	La Cygne.	<i>Petrolia.†</i>
Arkansas City.	Elkhart.	<i>La Harpe.</i>	Phillipsburg.
Arma.	<i>Emporia.</i>	Larned.	Pittsburg.
Ashland.	Englewood.	Lawrence.	Plainville.
<i>Atchison.</i>	Enterprise.	<i>Leavenworth.</i>	<i>Pleasanton.</i>
Attica.	Erie.	Lebanon.	Protection.
Atwood.	Esbon.	Liberal.	Pratt.
<i>Augusta.</i>	Eureka.	Lincoln.	<i>Rosedale.</i>
Baldwin.	Florence.	Lindsborg.	<i>Russell.</i>
Baxter Springs.	<i>Fort Scott.</i>	Little River.	Sabetha.
Belle Plaine.	Fowler.	Logan.	St. Francis.
Belleville.	Frankfort.	Lucas.	St. John.
Beloit.	<i>Fredonia.</i>	Luray.	St. Marys.
Bennington.	Frontenac.	<i>Lyndon.</i>	Salina.
Blue Rapids.	<i>Galena.</i>	Lyons.	Scammon.
Bonner Springs.	Garden City.	McCune.	Scandia.
Bucklin.	<i>Garnett.</i>	McPherson.	Scott City.
Bunker Hill.	<i>Gas City.</i>	Macksville.	<i>Sedan.</i>
Burden.	Girard.	Madison.	Sedgwick.
<i>Burlingame.</i>	Glasco.	Manhattan.	Seneca.
<i>Burlington.</i>	Glen Elder.	Mankato.	Sharon Springs.
Burr Oak.	Goodland.	<i>Marion.</i>	Simpson.
Burrton.	Great Bend.	Marquette.	Smith Center.
<i>Caldwell.</i>	Green.	<i>Marysville.</i>	Spearville.
<i>Caney.</i>	Greensburg.	Meade.	Stafford.
Cawker City.	Greenleaf.	Medicine Lodge.	Sterling.
<i>Cedar Vale.</i>	Halstead.	Miltonvale.	Stockton.
<i>Chanute.</i>	Hanover.	Mineral.	Sylvan Grove.
Chapman.	Harper.	Minneapolis.	Strong City.
Cherokee.	Havensville.	Moline.	Syracuse.
<i>Cherryvale.</i>	Hays City.	<i>Mound City.</i>	Topeka.
Chetopa.	Herington.	Mound Ridge.	Turon.
Cimarron.	Hiawatha.	Mulberry.	Udall.
Clay Center.	Highland.	Mulvane.	Valley Falls.
Clear Water.	Hill City.	Natoma.	Wa Keeney.
Clifton.	Hoisington.	<i>Neodesha.</i>	Wakefield.
Clyde.	Holton.	Newton.	Waldo.
<i>Coffeyville.</i>	Holyrood.	Nickerson.	Wamego.
Colby.	<i>Horton.</i>	Norton.	<i>Washington.</i>
Coldwater.	<i>Humboldt.</i>	<i>North Altoona.†</i>	Waterville.
Columbus.	Hutchinson.	Oakley.	Waverly.
Concordia.	<i>Independence.</i>	Oberlin.	Weir City.
Conway Springs.	<i>Iola.</i>	<i>Olathe.</i>	Wellington.
Cottonwood Falls.	Jamestown.	Onaga.	West Plains.
<i>Council Grove.</i>	Jetmore.	<i>Osage City.</i>	Westmoreland.
<i>Dearing.*</i>	<i>Jewell City.</i>	<i>Osawatimie.</i>	Wichita.
Delphos.	Junction City.	Osborne.	Wilson.
Dighton.	Kanapolis.	Oskaloosa.	Winfield.
Dodge City.	<i>Kansas City.</i>	<i>Oswego.</i>	<i>Yatca Center.</i>
<i>Douglas.</i>	Kensington.	<i>Ottawa.</i>	

Sewer systems have been installed or are under construction at the present time at the following cities:

City, disposal, and stream.	Permit granted.
Anthony, Imhoff tank, contact beds. Sand creek.....	Apr. 7, 1916
Augusta, Imhoff tank, contact beds, Walnut river.....	Sept. 20, 1915
Clyde, septic tank, Republican river.....	Jul. 9, 1915
Chetopa, Dilution, Neosho river.....	Aug. 10, 1916
Ellis, Imhoff tank, contact beds, Big creek.....	Jul. 29, 1916
Liberal, septic tank, sand filters, Dry run.....	Jan. 12, 1916
Lincoln, septic tank, Saline river.....	Jun. 15, 1916
Norton, septic tank, contact beds, Prairie Dog creek.....	Sep. 23, 1915
Osborne, septic tank, Solomon river.....	Feb. 26, 1915
Valley Falls, Imhoff tank, Delaware river.....	Feb. 27, 1915

* American Lead, Zinc and Smelter Company.

† Altoona Portland Cement Company.

‡ Kansas Natural Gas Company.

The following list is complete for sewer systems in the state:

TABLE II.—Sewer statistics, 1916.

TOWN.	Popula- tion, 1910.	Sewage discharged to—	Treatment.
Abilene.....	4,118	Smoky Hill river.....	No treatment.
Anthony.....	2,669	Sand creek.....	Septic tank, contact beds.
Arkansas City.....	7,508	Walnut river.....	No treatment.
Atchison.....	16,429	Missouri river.....	No treatment.
Augusta.....	1,235	Walnut river.....	Imhoff tank, contact beds.
Baldwin.....	1,386	Dry ravine, Marais des Cygne.....	Septic tanks, contact beds, 2 plants.
Beloit.....	3,082	Solomon river.....	No treatment.
Bonner Springs.....		Kansas river.....	No treatment.
Burlingame.....	1,442	Switzler creek.....	Imhoff tank, contact beds.
Burlington.....	2,180	Neosho river.....	Septic tank.
Caldwell.....	2,205	Fall creek.....	Septic tank.
Caney.....	5,061	Cana creek.....	No treatment.
Chanute.....	9,272	Neosho river.....	Septic tank.
Cherryvale.....	5,572	Drurr creek.....	Septic tank, contact beds.
Chetopa.....	1,548	Neosho river.....	No treatment.
Clay Center.....	3,438	Republican river.....	No treatment.
Clyde.....	1,057	Republican river.....	Septic tank.
Coffeyville.....	12,687	Verdigris river, Onion creek.....	Septic tanks.
Columbus.....	3,064	Brush creek.....	Septic tanks, contact beds, 2 plants.
Concordia.....	4,415	Republican river.....	No treatment.
Council Grove.....	2,545	Neosho river.....	Imhoff tanks, contact beds.
Dodge City.....	3,214	Arkansas river.....	No treatment.
Downs.....	1,427	Solomon river.....	Septic tank.
El Dorado.....	3,129	Walnut river.....	Septic tank, liquid chlorine.
Ellis.....	1,404	Big creek.....	Septic tank, contact beds.
Ellsworth.....	2,041	Smoky Hill.....	No treatment.
Emporia.....	9,058	Cottonwood river.....	No treatment.
Erie.....	1,300	Neosho river.....	Septic tank.
Eureka.....	2,333	Fall river.....	Septic tank.
Fort Scott.....	10,463	Marmaton river.....	Septic tank.
Frankfort.....	1,426	Black Vermillion river.....	No treatment.
Fredonia.....	3,040	Verdigris river.....	Septic tank.
Galena.....	6,096	Short creek.....	No treatment.
Garden City.....		Arkansas river.....	No treatment.
Garnett.....	2,334	Dry ravine, Pottawatomie	Septic tanks, contact beds, 2 plants.
Girard.....	2,446	Cow creek.....	Septic tanks, contact beds, 2 plants.
Great Bend.....	5,500	Walnut creek.....	Septic tank.
Halstead.....	1,004	Little Arkansas.....	Septic tank.
Harper.....	1,658	Bluff creek.....	Septic tank, contact bed.
Hays city.....	1,961	Big creek.....	Septic tank.
Herington.....	3,273	Lime creek.....	Septic tank.
Hiawatha.....	2,974	Wolf creek.....	Imhoff tank, sand filters.
Holington.....	1,975	Cheyenne creek.....	Septic tank.
Holton.....	2,842	Elk creek.....	Septic tank, contact bed.
Horton.....	3,600	Cedar creek.....	Septic tank, contact bed.
Humboldt.....	2,548	Neosho river.....	Septic tank.
Hutchinson.....	16,364	Arkansas river.....	Mechanical screens.
Independence.....	10,480	Verdigris river, Rock creek,	Septic tank, contact beds.
Iola.....	9,082	Elm creek.....	Septic tank.
Junction City.....	5,598	Smoky hill.....	No treatment.
Kansas City.....	85,679	Kansas river.....	No treatment.
Kingman.....	2,570	Ninnescah river.....	No treatment.
Kinsley.....	1,547	Arkansas river.....	No treatment.
Larned.....	2,911	Pawnee creek.....	No treatment.
Lawrence.....	12,374	Kansas river.....	No treatment.
Leavenworth.....	19,363	Missouri river.....	No treatment.
Liberal.....	1,716	Dry Lake.....	Septic tank, intermittent sand filters.
Lincoln.....	1,508	Saline river.....	Septic tank.
Lindsborg.....	1,939	Smoky hill.....	No treatment.
Lyndon.....	763	Salt creek.....	Septic tank, contact bed.
McPherson.....	3,546	Turkey creek.....	Septic tank, sand filters, Imhoff tank.
Manhattan.....	7,722	Blue river.....	No treatment.
Marion.....	1,841	Cottonwood river.....	Septic tank.
Marysville.....	2,260	Blue river.....	No treatment.
Minneapolis.....	1,895	Solomon river.....	No treatment.
Mulvane.....	1,084	Arkansas river.....	No treatment.
Neodesha.....	2,872	Verdigris river.....	Imhoff tank, sprinkling filters.
Newton.....	7,862	Sand creek.....	Septic tank.
Niekerson.....	1,195	Arkansas river.....	No treatment.
Norton.....	1,787	Prairie Dog creek.....	Septic tank, contact filters.
Olathe.....	3,272	Mill creek.....	No treatment.

TABLE II—CONCLUDED.

TOWN.	Popula- tion, 1910.	Sewage discharged to—	Treatment.
Osage City.....	2,482	Salt creek.....	Septic tank, contact beds.
Osawatomie.....	4,046	Marais des Cygne.....	No treatment.
Osborne.....	1,566	Solomon river.....	Septic tank.
Oswego.....	2,817	Neosho river and creek...	Septic tank, contact beds.
Ottawa.....	7,650	Marais des Cygne.....	No treatment.
Paola.....	3,207	Bull creek.....	No treatment.
Parsons.....	12,468	Little Labette creek.....	Septic tanks.
Peabody.....	1,416	Doyle creek.....	Septic tank.
Pittsburg.....	14,755	Cow creek.....	No treatment.
Pratt.....	8,802	Ninnescah river.....	Septic tank.
Rosedale.....	5,960	Turkey creek.....	No treatment.
Sabetha.....	1,768	Cedar creek.....	Septic tank, 2 contact beds.
Saint John.....	1,785	Rattlesnake creek.....	Septic tank.
Salina.....	9,688	Smoky hill.....	No treatment.
Sedan.....	1,211	Cana creek.....	No treatment.
Seneca.....	806	Nemaha river.....	Septic tank.
Stafford.....	1,927	Ninnescah river.....	Septic tank, contact beds.
Topeka.....	43,684	Kansas river.....	No treatment.
Valley Falls.....	1,129	Delaware river.....	Imhoff tank.
Wamego.....	1,714	Kansas river.....	No treatment.
Washington.....	1,547	Mill creek.....	Septic tank.
Wellington.....	7,084	Slate creek.....	Septic tanks.
Wichita.....	52,450	Arkansas river.....	No treatment.
Winfield.....	6,700	Walnut river.....	No treatment.
Yates Center.....	2,024	Ravine.....	Septic tank, contact beds.

SPECIAL WORK.

The plant for the treatment of refinery wastes at the plant of the Standard Oil Company at Neodesha, based on experimental work by various members of the department, was completed in December, and since that time we have had no complaints from cities using water from the Verdigris river below Neodesha. The detailed report of this work was the subject of a special article by Mr. Hesser in the *Bulletin*.

About twenty-five years ago two meat-packing houses were established at Wichita. At the request of the city these plants were placed above and north of the city, instead of below and south of the city, to prevent nuisances from the odors created by the prevailing south winds. Records show that the city agreed to furnish adequate sewerage to the plants in order to have them established at the present location. This would necessitate carrying the entire wastes through the city sewer system from the north end to the south. Accordingly, the fifteen-inch mains were established on Lawrence and Emporia avenues. These were sufficient for a good many years, but as the city and packing houses both grew, these mains soon became inadequate. At present, when both packing plants are operating at the same time, the waste is of sufficient volume that it can not be carried off by the sewers, and a portion of it overflows into Chisholm creek, which has been converted into a drainage canal and which flows through the city from north to south. Bitter complaints have been made by property owners and citizens of Wichita. The packers maintain that the city, according to their agreement, should furnish them with adequate sewerage. About four years ago a main intercepting sewer was designed to serve all of the north part of Wichita and the packing houses. Bids were advertised for and received and the contract was let for about \$185,000. An injunction was sought by a property owner, however, on the ground that the city could not expend money for sewers to serve industries located outside of the city limits, and the injunction was granted. In 1915 a bill was put through the legislature to

allow cities to coöperate with industries located outside of the city limits in the construction of sewers, but the present city commissioners can not agree on the issuance of the bonds necessary for the construction of this sewer.

This department has suggested to the city and the packers that it is possible that the packers will be able to treat their waste and discharge them directly into the drainage canal at a less cost than they can help construct the new sewer, and we have suggested that an experimental plant be established for treating their sewage. We have agreed to furnish a chemist for two months' operation of the experimental plant if the packers will build the plant, provided we are able to secure some results of the operation of similar plants at the packing houses in Chicago. In the meantime we have suggested to the city that if they desire to construct this main sewer the help from the packing houses would be very desirable, and that if results are secured from the operation of the experimental plant which would justify the packers in refusing to assist the city in the construction of this sewer, the city would be the loser, because the increasing population of the north part of Wichita will necessitate the construction of the sewer at an early date any way.

Very probably the best solution of the problem would be the construction of this new sewer. However, a new method of sewage disposal, known as the activated sludge method, is being developed and has been found to be particularly applicable to the disposal of packing-house waste by experiments conducted by the sanitary district of Chicago and the packers themselves.

The Cameron Septic Tank Company, of Chicago, which was granted a patent on the septic process, has of late been showing some unusual activity, demanding high royalties from various cities over the United States, among others, most of the cities in Kansas with sewage-disposal plants. Since there is every reason to believe that such royalties are unjust and are not collectable, an association known as "The National Septic Process Protective League" was formed in March for the purpose of contesting such claims. Your engineer was chosen as one of two members of the board of directors from Kansas and also a member of the executive committee.

Funds for the salaries of three sanitary engineers to work during the summer under the direction of your engineer on sanitary surveys of watersheds of domestic water supplies have been furnished by the University. It is hoped that much valuable data on the pollution of some of the surface water supplies will be obtained.

The sewerage laws of this state are very unsatisfactory, being in many cases conflicting or inadequate. It is hoped to have a revised set of laws to be presented to the next legislature which will permit cities to have an understanding of what they may or may not do.

The operation of sewage-disposal plants in line with the Board's instructions will be taken up this year and put on a working basis. As we proceed with our twice-yearly inspections we find more than ever the need of constant supervision of these plants. There have been many cases, even during the past year, of costly sewage-disposal plants rendered practically useless on account of neglect.

Respectfully, C. A. HASKINS, *Engineer.*

Annual Report of the Director of the Laboratory of the Water and Sewage Division, 1915.

To the Kansas State Board of Health:

GENTLEMEN—The operations of the laboratory have been greatly restricted during the last year, due to lack of funds. However, I have to report the following number of analyses:

Supplies furnishing surface water. Bacteriological, 1189; chemical, 59; microscopical, 32.

Supplies furnishing ground water. Bacteriological: Good, 137; bad, 45. Chemical, 135.

Analyses for physicians and health officers. Bacteriological: Good, 104; bad, 106. Chemical, 124. Microscopical, 1.

Railroad supplies. Bacteriological: Good, 22; bad, 10.

During the same period last year some five thousand (5000) analyses were made.

Some very important research work has been under way in the laboratory, but owing to our lack of funds we were unable to carry it to completion. The three important problems under consideration are (1) modification of water-analysis methods to apply to Kansas bacterial flora, (2) the viability of *B. coli* in soil, and (3) the physiological effect of high nitrates in drinking water. We will be able to bring forward some interesting results next year from the study of these problems.

It has been very unfortunate that the laboratory could not handle public health analyses for physicians and county health officers, but we hope that under the law which provides for water analyses to be able to handle work of this character.

The first-year of administering the laboratory under the rules and regulations submitted for your approval to-day will be very difficult, as unquestionably there will be many misunderstandings, so I wish to ask for the coöperation of the health officers in explaining the rules and regulations to the parties affected. There are many individuals who write to the laboratory asking for analyses. We wish now to take the position that all private parties must consult with their city or county health officers and have requests for containers come through them, as I believe it will avoid difficulty, and in some instances legal complications.

The rules and regulations for the collection of samples and analysis of water have been outlined by the Water and Sewage Division and are submitted for the approval of the State Board of Health.

C. C. YOUNG, *Director.*

Biennial Report of Division of Food and Drugs,*Covering the period of July 1, 1914, to July 1, 1916.*

It is gratifying to report that the Division of Food and Drugs, Kansas State Board of Health, has passed through a very successful biennium in all laws with which it is charged to enforce, including food and drug act, sanitary inspection law, weights and measures law, and linseed-oil and turpentine law.

. FOOD AND DRUG ACT.

The food and drug work in Kansas started in 1905, when the first preliminary food and drug law was passed by the state legislature. In 1907 this law was amended by calling for a system of inspection by the State Board of Health. During the fiscal year ending July 1, 1915, 1516 samples of food were sent into our laboratory by the inspectors; 73.49 per cent were classed as legal and 26.51 per cent as illegal. The fiscal year ending July 1, 1916, showed 1178 samples of food sent into our laboratory by the inspectors; 67.82 per cent were classed as legal and 32.18 per cent as illegal. For the fiscal year ending July 1, 1915, 245 samples of drugs were reported to this office, with 60.82 per cent legal and 39.18 per cent illegal. For the fiscal year ending July 1, 1916, 203 drug samples were reported, with 73.90 per cent legal and 26.10 per cent illegal.

During the past biennium the character of some of the illegal food samples found and reported upon were: Ciders and other beverages containing large per cents of alcohol; pops containing saccharin; baking powder; canned vegetables, such as asparagus, containing excessive amounts of tin in contents, canned sardines containing excessive amounts of tin in contents; evaporated fruits, either not labeled as containing sulphur dioxide or else having excessive amounts of this substance, which is used as bleaching agent; some vanilla extract not correctly labeled; a number of samples of adulterated milk; substandard ice cream; salad oil not properly labeled; chili powders which were compounds instead of being made from the proper red pepper; diabetic foods which were not within standard or properly labeled; grapefruit which had not properly matured; cayenne pepper which was not of the right species of red pepper; and a large number of samples of cider vinegar, etc.

The adulterations in drugs found during the past biennium were: Solution of phenol, off color; yellow wax and white wax, containing paraffin; sweet spirits of nitre, below standard; acetyl salicylic acid tablets, which contained 17 to 18 per cent acetanilid, together with sugar, starch and organic acid other than salicylic acid; anise which contained excess of starch; calamus which was the peeled rizome, whereas the U. S. P. demands the unpeeled; buchu found not to be the official short-leaved buchu, but mixture of other kinds; senna-Alexandria which was probably not the genuine, but Indian senna; linseed oil which contained mineral oil; carbolic acid containing glycerin and was not the official strength; a few samples of essence of peppermint which contained less than the percent of oil required; saltpeter which contained alum, and in

a number of cases large per centages of common salt; aromatic spirits of ammonia which contained less than the amount of oil supposed to be added in making such preparation; a few samples of substandard spirits of camphor; some hair tonics which had wood alcohol in them, and a large number of proprietary medicines which were classed as questionable. A few samples of different brands of nitroglycerin tablets were below the standards as declared for them. The majority of samples of essence of pepsin that were taken up were found below standard. About fifty per cent of the samples of hydrogen peroxide taken from the drug-store shelves were declared illegal because they were substandard. There were also a number of miscellaneous drug samples declared illegal.

SANITARY INSPECTION LAW.

The sanitary inspection law is a companion law to the pure food and drugs act, although this important law was not enacted in Kansas until 1909. The purpose of this law is to have our food and drugs kept for sale and sold to us in a clean and sanitary manner. Although this law in its present form is not entirely adequate, there is no doubt but what its enforcement is of advantage to the public. It should be amended or revamped so that it will provide for the physical examination of persons handling foodstuffs in food establishments in this state. In the enforcement of the sanitary inspection law during the fiscal year ending July 1, 1915, there were 7490 food and drug places classed. Of the 9076 total inspections made for that year, 54.84 per cent were classed as good and good to fair, 42.33 per cent as fair, and 2.83 per cent as poor. Out of the 9273 total inspections made during the fiscal year ending July 1, 1916, there were 8316 food and drug establishments classed, with the following result: 64.92 per cent were good and good to fair, 31.83 per cent fair, and 3.25 per cent poor. This shows an improvement in the stores classed as fair this year as compared with the fiscal year ending July 1, 1915.

SCALES, WEIGHTS AND MEASURES LAW.

Our inspectors inspected 6799 scales, 14,838 weights and 3639 measures during the fiscal year ending July 1, 1915, condemning 39 scales, 165 weights and 6 measures. During the fiscal year ending July 1, 1916, the inspectors inspected 7377 scales, 20,202 weights and 3451 measures, condemning 72 scales, 674 weights and 63 measures. These above-mentioned scales, weights and measures were counter scales in our food and drug establishments, and prescription scales, weights and measures in our drug stores.

In addition to the above routine scale, weight and measure inspections, our inspectors during the past biennium made special inspections of 91 gasoline-measuring devices, 21 wagon and heavy-weight scales, 18 inspections of weighing coal, 11 ice-weighing inspections, 2 inspections of weighing fruit, 8 inspections of weighing vegetables, and inspections of 10 huckster wagons as to scales, weights and measures.

LINSEED OIL AND TURPENTINE LAW.

The linseed oil and turpentine law in Kansas for the past biennium has been fairly well obeyed. Special linseed oil and turpentine inspections were made in 114 places during the past biennium. During the period of

this report 11 samples of boiled linseed oil were collected, of which 8 were passed and 3 were illegal; 12 samples of raw linseed oil were reported, with 11 passed and 1 illegal. Ten samples of turpentine were reported, with 9 passed and 1 illegal.

GENERAL REMARKS.

The following summary will show the investigations during the past biennium, in addition to our regular work:

First. State-wide milk survey of all cities having 3000 or more population. The result of this milk survey of these 46 cities in Kansas during January and February, 1915, showed that Kansas was getting a very dirty and adulterated milk supply. Six hundred and sixteen samples of milk and 52 samples of cream were ordered by this division to be taken by our traveling inspectors, and 11.03 per cent of the milk samples and 15.38 per cent of the cream samples were found to be adulterated, either by visible dirt, added water or skimmed. During the following months the illegal samples were resampled, and there was found to be an improvement of 89.14 per cent on the milk samples and 63.64 per cent on the cream samples. It is needless to say that the samples which were illegal on the second sampling, after first warning, were referred to the county attorneys and prosecution begun. We did not lose a single case. Thus the milk supply in all cities in Kansas above 3000 population was improved 100 per cent after first sampling by warning, then resampling, and finally prosecution if the dairyman still persisted in selling dirty, substandard and illegal milk. Also, during 1915 a survey of the dairies supplying milk to the people of Kansas was inaugurated and 223 exclusive and 941 private family dairies were reported upon. Of 251 dairies classed, 43.82 per cent were found in good condition, 18.32 per cent good to fair, 33.06 per cent fair and 4.80 per cent poor. It is estimated from the report that 2328 individuals were supplying milk and cream to the people of Kansas at that time. This state milk survey was published in the April, 1915, monthly *Bulletin* of this department.

Second. A slaughter-house survey was begun July 1, 1914, ending April 1, 1915. The number of slaughter houses inspected was 286, of which 91 were not in use, 195 were in use, with the following results: 8.20 per cent excellent, 34.35 per cent good, 42.05 per cent fair, 10.79 per cent poor, and 4.61 per cent abominable. In order to correct conditions and also aid the butcher in building more sanitary places, this division had plans made for a small sanitary slaughter house. These plans during the past fiscal year were sent to numerous butchers who applied for them.

Third. A searching sanitary survey was made in every town of the state during the past biennium, and during the past fiscal year, especially in the cities of the first class in Kansas, a greater effort was made to improve the sanitary condition of the food establishments. A score card suitable for city inspection work, devised by the writer, was adopted recently by the city of Topeka. A return card showing the score is sent out by the city authorities, with instructions to post in the place of business inspected. A blue card denotes excellent sanitary condition; white, fair; and red, poor. Much improvement is noted by this method.

Fourth. A complete survey of deteriorated and misbranded foods and drugs found on the shelves of our stores was made. This is still in progress. Results so far show that we have been obtaining a valuable amount of data in this connection.

Fifth. The State Division of Food and Drugs has caused to be analyzed approximately 500 "patent" and proprietary medicines since the food and drug act was enacted. There has also been a general campaign by educational exhibits and by bulletins. Doctor Osler says, "The only drugs that are worth an oyster shucker's oath are those that smell good, taste good, look good, and are harmless." Evidently the "patent" medicine manufacturer has carried out Doctor Osler's maxim to some extent, but there have been "patent" and proprietary medicines on the market which are not harmless, although they "smell good, taste good, and look good." During 1915 propaganda was started by the state to give the publishers of the daily newspapers in Kansas an idea of the composition of a number of worthless and fake medicines.

Sixth. Special investigations on the following food products were made: Amount of lead found in baking powders; amount of tin in contents of canned products, especially asparagus and sardines; bacteriological and chemical analysis of swells and springers in canned goods; survey of catsup on the market; fruit butters; ice cream; ground ginger; temperance beers; candy; pops and soft drinks for saccharin; jellies and jams; grape fruit and oranges, for maturity; lemon extracts; vanilla extracts; cider vinegar; bread, in regard to labeling; gluten and diabetic foods; chile powders; red pepper; and the milk work mentioned in the milk survey.

Seventh. Special investigations on the following drug products were made: Hydrogen peroxide; nitroglycerine tablets; spirits of nitre; saltpeter; beeswax and white wax; proprietary mineral oils; complete stock of crude drug products; fluid extracts and tinctures, for deterioration; "aspirin" and acetylo-salicylic acid tablets; and survey of deteriorated and misbranded drugs on the drug-store shelves.

Eighth. In connection with the weights and measures law, an investigation was made of gasoline weighing devices, such as the measuring pumps found in public garages. Some of these pumps were found to be giving short volume to the extent of about one pint to five gallons. Inspections were made in Topeka, Leavenworth, Fort Scott, Atchison and other places. These devices were willingly corrected by the dealer, so that full measure was assured. In those gasoline devices with long rubber hose it is necessary to drain the hose for each customer; otherwise he may be cheated. At any rate, unless the hose is drained after each purchase the customer is not sure he is getting what he paid for.

DETAILS OF INSPECTIONS, FOOD AND DRUG ANALYSES REPORTED, PROSECUTED, AND CONDEMNATION OF SCALES, WEIGHTS AND MEASURES.

The following tables, compiled by the writer, gives the details of the most important inspections that come under this division. Some hotel and restaurant inspections were made by our inspectors for the writer, who is also the state hotel commissioner. These inspections, together with hotel, rooming-house and restaurant inspections, are made by the regular traveling hotel inspectors and reported to the governor in a separate report required by law. Table 1 gives the food and drug inspections made from July 1, 1914, to July 1, 1915; table 2 the inspections made from July 1, 1915, to July 1, 1916; table 3, food analyses, July 1, 1914, to July 1, 1915; table 4, food analyses, July 1, 1915, to July 1, 1916; table 5, drug analyses, July 1, 1914, to July 1, 1915; table 6, drug analyses, July 1, 1915, to July 1, 1916; also, prosecutions terminated for fiscal year ending July 1, 1915, and fiscal year ending July 1, 1916; condemnations of scales, weights and measures for fiscal year ending July 1, 1915, and fiscal year ending July 1, 1916.

TABLE No. 1.—Food and drug inspections, July 1, 1914, to July 1, 1915.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Bakery.....	509	203	46	238	22
Bakery, confectionery and restaurant.....	1			1	
Bakery and confectionery.....	7	6	1		
Bakery and ice-cream factory.....	2	1			1
Bakery and restaurant.....	22	9	2	7	4
Bakery and fountain.....	1	1			
Biscuit factory.....	1	1			
Boarding camp complaint.....	1				
Bottling works.....	105	64	15	24	2
Canning factory.....	3		1	2	
Candy factory.....	4	3		1	
Candy and ice-cream factory.....	1	1			
Cheese factory.....	1			1	
Cider mill.....	2			1	1
Confectionery and candy kitchen.....	153	110	13	28	2
Confectionery and ice-cream parlor.....	115	77	5	32	1
Confectionery and restaurant.....	4	2		2	
Confectionery and soft drinks.....	27	18	1	8	
Creamery.....	15	8		5	2
Cream station.....	1	1			
Cream station and bottling works.....	2	2			
Cracker and candy manufactory.....	1	1			
Doctors' dispensaries.....	19	9	4	6	
Drug manufacturer.....	5	4		1	
Drug stores.....	1,239	577	147	498	17
Drugs (wholesale).....	6	5	1		
Elevator.....	25	11			
Elevator, flour and feed.....	3	3			
Extract and perfume, jobber and manufacturer.....	1		1		
Extract factory.....	4	2		2	
Feed store.....	25	13			
Feed and seed.....	1	1			
Feed and hay.....	1				
Feed and flour.....	1	1			
Fish market.....	1		1		
Food and drink concessions:					
Burlington fair.....	40			40	1
Iola fair.....	27	10	6	11	
Lawrence fair.....	18			18	
Lyons carnival.....	4			4	
Topeka and Hutchinson fairs.....	198			198	
Unionville fair.....	10		1	9	
At street shows, parks, etc.....	21			10	
Circuses at Wichita and Hutchinson.....	12			12	
Fountains (soda):					
At confectionery.....	14	14			
At restaurant.....	95	38	8	29	20
At racket, bookstores, and pool halls.....	131	62	14	54	1
Fruit stand.....	1				1
Fruit and confectionery.....	1	1			
Grocery.....	3,038	1,335	218	1,432	53
Grocery and meat.....	647	264	50	321	12
Grocery and bakery.....	22	5		16	1
Grocery and restaurant.....	17	5	1	11	
Grocery, meat and restaurant.....	3	2		1	
Grocery, meat and bakery.....	5	3	1	1	
Grocery, meat and feed.....	1			1	
Grocery and confectionery.....	4	2		2	
Grocery and feed.....	12			12	
Grocery and produce.....	2			2	
Grocery and fruit.....	1	1			
Grocery, feed and poultry.....	1			1	
Grocery, bakery and feed.....	1			1	
Grocery and cream.....	1			1	
Grocery and beverages.....	1				1
Grocery, poolhall, confectionery and barber shop.....	1			1	
Ice cream factory.....	62	39	7	13	3
Ice cream parlor.....	9	7		1	1
Ice manufacturer.....	1	1			
Linseed oil inspections.....	77				
Linseed oil manufactories.....	1	1			
Meat market.....	560	262	32	251	15
Meat market and bakery.....	1		1		

TABLE No. 1—CONCLUDED.

KIND OF PLACE INSPECTED.	Number of inspec- tions.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Meat market and restaurant	8	4		4	
Meat market and drugs	1		1		
Meat market and confectionery	3		2	1	
Meat, fish and poultry	2			2	
Meat peddler	1				
Mills:					
Alfalfa mill	1	1			
Corn meal mill	1	1			
Feed mill	21	12	4	1	
Flour mill	115	101	3		
Feed and corn meal mill	7	6		2	
Spire mill	1		1		
Patent medicine stocks	66	42	4	15	4
Pickle factory	4	2	1	1	
Packing house	3	2		1	
Poultry and storage house	1		1		
Potato chip factory	1	1			
Preserve factory	1			1	1
Produce factory	4	2	2		
Pretzel factory	1				
Restaurant and hotel food display	113	40	10	31	29
Slaughter house	146	47	1	85	13
Seed store	3				
Special inspections:					
Chickens	19				
Egg-breaking establishments	6				
Egg inspections	11				
Food display	96				
Ice cream sampling	5				
Milk inspections	652				
Milk epidemic inspections	23				
Milk wagon and depot	8	2			
Milk (butter) station	1	1			
Special dairy inspections	12	4	4	1	3
Soda fountain and barber shop	1				1
Soda supplies	1	1			
Supplies at barber shop	2	2			
Special weights and measures inspections:					
Fruit weighing	2				
Gasoline measuring devices	58				
Wagon scales	2				
Tea, coffee and spire	17	10	2	5	
Wholesale food:					
Wholesale grocery	37	16	4	16	1
Wholesale tea and coffee	1	1			
Wholesale butcher	1			1	
Wholesale candy	3	3			
Vinegar factory	7	1	1	5	
Vinegar and cider factory	1	1			
Miscellaneous not classified	196				
Totals	9,076				

Those classed for sanitation	7,490
Good, and good to fair	54.84%
Fair	42.38%
Poor	2.83%

TABLE No. 2.—Food and drug inspections, July 1, 1915, to July 1, 1916.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Bakery	532	198	114	188	32
Baker and bottling works	1	1			
Bakery and confectionery	5	2	1	2	
Bakery and meats	4	1	1	2	
Bakery and restaurant	1			1	
Beverages	2	1	1		
Butter store	1			1	
Bottling works	68	27	21	15	5
Barber shop	2				1
Camping ground	1	1			
Candy manufactory	15	3	1	11	
Confectionery and candy kitchen	282	138	74	63	7
Cider mill	1			1	
Condensery	1	1			
Creamery	12	8	2	2	
Creamery and poultry	1	1			
Creamery	4	4			
Doctor's dispensary	30	18	4	13	4
Drug store	1,305	557	234	470	44
Drug manufacturer	8	6	1	1	
Drugs (wholesaler)	3	3			
Drug stores and ice cream factory	1			1	
Extract factories	2			1	
Feed store	3	3			
Fountains at cigar stands, news-stands, pool halls, notions, rackets, etc.	80	25	19	36	
Fruit stand	1			1	
Fair stands at Topeka and Hutchinson	284				
Fruit and grocery	1			1	
Fruit and produce	2			2	
Fruit and vegetables	3	2	1		
Fish market	1	1			
Grocery	3,781	1,628	638	1,422	93
Grocery and meat	979	277	227	428	47
Grocery and bakery	24	10	1	10	3
Grocery, meat and bakery	7	3		4	
Grocery and lunch	4	1	1	2	
Grocery and confectionery	8		4	2	
Grocery and feed	5	2		3	
Grocery and produce	1			1	
Grocery, meat and lunch	1	1			
Grocery, fish and poultry	1			1	
Grocery and creamery	1			1	
Grocery and fish	1	1			
Grocery and beverage	3		1	2	
Grocery and drugs	4		1	2	1
Grocery, coffee and tea	1			1	
Ice cream factory	59	29	15	14	1
Ice cream parlor	11	1	6	3	1
Linseed oil inspections	35				
Linseed oil manufacturer	1				
Meat market	704	359	97	239	9
Meat and confectionery	2			2	
Meat and drugs	1		1		
Meat pedaler	2			2	
Milk depot and grocery	2	1		1	
Mills (flour)	17	12		5	
Medicine wagon	4	4			
Medicine and drug stocks at general stores, etc.	70	28	5	24	1
Pickle factory and vinegar	1				
Preserve works	1				
Pretzel manufacturer	1			1	
Potato chip manufacturer	1		1		
Produce	8	2		6	
Poultry	6	5		1	
Poultry and eggs	15	12			
Packing house	2	1		1	
Poultry, eggs and butter	1				1
Slaughter house	143	74	20	43	6
Seed store	5	3			
Seed and feed store	3				

TABLE No. 2—CONCLUDED.

KIND OF PLACE INSPECTED.	Number of inspec- tions.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Special inspections:					
Butter factory	1	1			
Cooperative company	1	1			
Milk wagons, milk depot, creameries and dairy	151	9		5	10
Special federal and state cooperative milk survey at Kansas City.*					
Special egg investigations	23	16	1	3	
Egg-breaking establishments	1	1			
Delicatessen	1	1			
Extract and remedies	1	1			
Barber supply	1			1	
Unclaimed food and drug freight	8				
School houses	7				
Nuisance complaints	5				1
Special wagon investigation	17				
Special food display	10				
Train inspections, to see if water and ice in separate tanks	58	10			8
Other special inspections, including eggs, poultry, hay, feed, seed, straw and venders	31	9			
Special inspections of miscellaneous character not listed	274				
Special weights and measures inspections:					
Coal weighing	18				
Heavy weight scales	19				
Special weighing vegetables	8				
Special huckster wagon inspection of weights and measures	10				
Special ice weighing investigation at Ottawa	11				
Gasoline measuring devices	33	2			
Tea, coffee and spices	14	9		5	
Wholesale candy	2	1		1	
Wholesale grocery	34	27	1	6	
Vinegar factory	2			1	
Totals	9,293				

* Large number of inspections.

Those classed for sanitation	8,316
Good, and good to fair	64.92%
Fair	31.83%
Poor	3.25%

TABLE No. 3.—Food analyses reported, July 1, 1914, to July 1, 1915.

KIND OF SAMPLE.	Misbranded...	Adulterated...	Passed...	Total No. of samples...	KIND OF SAMPLE.	Misbranded...	Adulterated...	Passed...	Total No. of samples...
Acidine, for pops.....			1	1	Food color.....			1	1
Apples.....			1	1	Fruit products:				
Beverages:					Fruit butters.....	3	3	27	35
Cider.....	6	16	4	29	Jelly and jam.....	1		4	7
Cider, imitation and compound.....	2	2		4	Preserves.....	1		1	1
Cocoa.....		1	9	10	Honey.....			1	1
Coffee, ground.....		1	2	3	Milk products:				
Miscel. beverages.....	4		2	7	Milk.....		95	690	786
Pops.....		12	11	23	"Melowa" for ripening cream.....		1		1
Temperance beers.....	14		7	21	Cream.....		12	52	64
Ginger ale.....			2	2	Butter.....	2	2	2	6
"Instant Postum".....			1	1	Buttermilk.....			1	1
Kaffee-Hag.....			1	1	Evaporated milk.....			2	2
Lemonade.....			6	6	Evaporated milk mixture, Hebe.....	3			3
Orangeade.....	3		3	5	Milk powder.....			1	1
Orangeade mixture.....		1		1	Ice cream.....		19	32	51
Baking powder.....		10	10	21	Meat seasoning preparation.....			3	3
Canned fruits.....		10	5	80	Ideal sausage flavor.....		1		1
Canned vegetables.....	5	17	19	48	Lard.....			1	1
Chile con carne.....		4	6	10	Oysters.....			3	3
Canned fish:					Cod fish.....			1	1
Sardines, in oil.....		5	4	8	Nuts, pecans.....			1	1
Shrimp.....			5	5	Pickles.....	4	56	11	71
Kipperd herring.....			1	1	Olive oil.....	1	2	2	5
Candy.....	1		5	6	Olive oil compound.....			1	1
Catsup.....	1		31	36	Salad oil.....		11	15	26
Celery relish.....			1	1	Sugar, powdered.....			1	1
Chocolate, bitter.....			2	2	Pep-O-Mint, confection.....				1
Chocolate, sweet.....	1			1	Solution, grape rite acid.....		1		1
Chicken, boiled.....	1			1	Spices:				
Cereal products:					Ginger, Jamaica.....			2	2
Corn meal.....			1	1	Ginger, ground.....	2		14	16
Wheat flour.....	3		3	7	Mustard, ground.....			2	2
Graham flour.....			2	2	Pepper, cayenne.....	1			1
Pancake flour.....	4		12	16	Syrups:				
Rice.....	3		7	10	Grapine.....	1			1
Rice breakfast food.....			1	1	Pop syrups.....		1	6	7
Roman meal food.....	1	1		2	"Falfa" syrup.....				3
Evaporated fruits.....	2	18	8	28	Vinegars:				
Extracts:					Cider.....	2	2	5	9
Vanilla.....	8	1	4	13	Sugar and distilled.....	1			1
Imitation and compound vanilla.....	2	4		7	Yeast.....		1		1
Lemon.....	2	1	5	9					
Imitation lemon.....		1	1	2					
Miscel. extracts.....	1	3		7					
Foam powders.....		5		5	Totals.....	402	1,114	1,516	

TABLE No. 4.—Food analyses reported, July 1, 1915, to July 1, 1916.

KIND OF SAMPLE	No. analyzed.	Legal.....	Illegal.....	Questionable..	KIND OF SAMPLE.	No. analyzed.	Legal.....	Illegal.....	Questionable..
Acid, liquid, for beverages.....	1	1			Fruit products:				
Acid, crystals, for beverages.....	1	1			Jams and jellies.....	28	18	10	
Baking powders.....	7	2	5		Preserves.....	8	7	1	
Beverages:					Fish:				
Beer.....	5		5		Anchovies.....	1		1	
Drinket.....	1	1			Boneless, salt. F.....	1		1	
Grape juice.....	1	1			Herring, spiced.....	1		1	
Grape smash.....	1	1			Sardines.....	7	3	4	
Ginger ale.....	8	7	1		Tuna fish.....	1	1		
Ginger beer.....	1			1	Hominy.....	2	2		
Cider.....	19	2	17		Honey.....	5	5		
Nectars.....	5		5		Lima beans.....	4	4		
"Pine Apple Pep".....	1		1		Lard.....	1		1	
Pops.....	87	62	24	1	Milk products:				
Prepared coffee.....	1	1			Butter.....	2	1	1	
Miscellaneous temperance beverages.....	25	9	11	5	Cheese.....	6	6		
Bread.....	9		9		Ice cream.....	90	40	50	
Candy.....	86	70	9	7	Milk.....	249	225	24	
Canned vegetables, including swells for investigation purposes.....	29		4	25	Milk, evaporated.....	9	9		
Miscellaneous Canned fruit and vegetables.....	17	17			Maple sugar.....	1		1	
Canned corn.....	2	1	1		Maple cream.....	1	1		
Canned sweet potatoes.....	11		11		Mustard, prepared.....	3	2	1	
Cocoa.....	13	13			Nuts, unshelled almonds.....	1	1		
Chocolate, sweet ground.....	4		4		Oil, strawberry.....	1			1
Celery.....	1		1		Olive of sweet oil.....	4	1	3	
Coffee, vacuum packed.....	1	1			Oysters.....	1			1
Coffee.....	7		7		Pickles.....	20	9	11	
Catsup.....	5	1	4		Powdered sugar.....	4	3	1	
Chili powders.....	11		8	3	Peanuts, raw.....	1	1		
Cereal products:					Peanuts, salted.....	1	1		
Flour.....	2	1	1		Product from cooking compound.....	1		1	
Flour, whole wheat.....	1			1	Spices:				
Flour, graham.....	4	3	1		Capsicum.....	10	9	1	
Flour, pancake.....	2	1	1		Po. capsicum.....	1		1	
Diabetic gluten foods:					Cayenne.....	8		8	
Flour.....	31	16	6	9	Red pepper.....	1	1		
Rice.....	4	1	1	2	Paprika.....	2	1	1	
Wheat.....	2	1	1		Black pepper.....	1	1		
Evaporated fruits:					Cloves.....	1	1		
Apples.....	9	2	7		Celery seed.....	1	1		
Peaches.....	1		1		Mustard.....	1	1		
Apricots.....	1		1		B. mustard.....	1	1		
Extracts:					Mace.....	1	1		
Vanilla.....	26	9	9	8	Nutmeg.....	1	1		
Imitation and substitute vanilla.....	3		3		Seasoning.....	1	1		
Vanilla and tonka.....	2	2			Sausage.....	7	4	3	
Lemon.....	36	28	7	1	"Snow Mellow".....	1	1		
Terpeneless lemon.....	3	3			Syrups:				
Imitation lemon.....	2	1	1		Fountain and fruit flavoring syrup.....	8	4	1	3
Miscellaneous extracts and flavors.....	26	8	8	10	Sorghum and corn syrup.....	1		1	
"Egg Saver".....	2			2	Table syrup.....	1		1	
Fruits:					Maple syrup.....	1		1	
Grape fruit.....	29	2	27		Syrup acid, concen.....	1	1		
Oranges.....	2	2			Vanilla beans.....	2	2		
					Vinegars:				
					Cider vinegar.....	118	74	44	
					Cane sugar vinegar.....	1		1	
					Vinegar stock.....	5	3	2	
					Totals.....	1,178	719	379	80

TABLE No. 5.—Drug analyses reported, July 1, 1914, to July 1, 1915.

KIND OF SAMPLE.	Below stand- ard or illegal	Standard or passed	Total samples	KIND OF SAMPLE.	Below stand- ard or illegal	Standard or passed	Total samples
Arbolone			1	Nitro-glycerin tablets, as de- clared	5	4	10
Acid, carbolic	1	2	3	Nitro-glycerine Compound tablets, as declared		2	2
Acid, hydrochloric		2	2	"Oliphane" (Liq. Petralat)		1	1
Acid, pyroligneous, crude	1		1	"Optona"			1
Acid, salicylate acetyl tabs, 5 gm	3		3	Pepsin chewing gum	3	3	6
Aspirin tablets, 5 gr	4	2	6	Powdered drugs:			
Aspirin compound as declared		1	1	Belladonna leaves		1	1
Aspirin, gran. eff	1		1	Capsicum	1		1
Aromatic spirits ammonia		2	2	Cantharides		1	1
Alcohol	1		1	Gum asafoetida		1	1
Bay rum, as declared	1	1	2	Hyoscyamus	1		1
Blackleg vaccine	1		1	Nux vomica		1	1
Calcined magnesia	1	2	3	Blistering flies	1		1
Castor oil		6	6	Prepared coffee			1
Castor oil, aromatic		3	3	Preservo Fumigator			1
Cod liver oil		3	3	Preservaline	1		1
Cod liver oil cough candy		1	1	Quinine sulphate		1	1
Cod liver oil extract preparations			3	Rocky Mountain hydro mineral	1		1
Citric acid	1	1	2	Spirits of camphor	3	7	12
Compound licorice, powdered		2	2	Sweet spirits of niere	12	4	16
Camphorated oil	1	1	2	Saltpeter	7	2	9
Codeine tablets, as declared				Sarsaparilla and dandelion com- pound	1		1
Above standard	1		1	Sandol disinfectant	1		1
Essence of peppermint	3	2	5	Tartaric acid		2	2
Essence of pepsin	4	3	7	Tartaric acid, soluble	1		1
Elixir of pyrophos of I. Q. & S			1	Tinctures:			
Elixir of nitro-glycerine compound			1	Arnica		1	1
Essential oils:				Asafoetida		1	1
Gaultheria			1	Gentian compound		1	1
Lemon			1	Ginger	3	5	9
Wintergreen		3	3	Iodine, one was above stand- ard	4	3	7
Wintergreen leaves		1	1	Opium	1		1
Sandalwood	1		1	Wax:			
Fluid extract of cocoa	1		1	Bees	3	4	8
Gum asafoetida		1	1	White	2	3	5
Gopher poison			1	Witch hazel, extract of		1	1
Heart tonic tablets, as declared	1		1	Linseed oil, boiled	3	5	8
Hydrogen peroxide	10	11	21	Linseed oil, raw		6	6
"Kamethol," as declared	1		1	Turpentine	1	8	9
Kola extract		1	1				
Liquid smoke preparation			7				
Lime water	1	3	4				
Liquid phenol		2	2				
Mother Gray's powder for chil- dren	1		1				
Morphine sulfate tablets, as declared		1	1				
				Totals	96	149	245

TABLE No. 6.—Drug analyses reported, July 1, 1915, to July 1, 1916.

KIND OF SAMPLE.	No. analyzed.	Legal.	Illegal.	Questionable.	KIND OF SAMPLE.	No. analyzed.	Legal.	Illegal.	Questionable.
Acid, carbolic.....	11	4	7	.....	Corn remedy.....	1	1	.....	.....
Acid, acetic.....	1	.....	1	.....	Cough syrup.....	1	1	.....	.....
Acid, diluted hydrochloric.....	1	.....	1	.....	"DeMiracle Hair Remover".....	1	.....	.....	1
Acid, acetylo-salicylic tablets, as declared.....	15	4	11	.....	Hair tonics.....	3	.....	2	1
Acid, acetylo-salicylic powder.....	2	1	1	.....	Hall's "Texas Wonder".....	1	.....	.....	1
Aspirin tablets, as declared.....	6	4	2	.....	Hydrolized talcum.....	1	.....	.....	1
Aspirin compound, as declared.....	1	.....	1	.....	Insect powder.....	2	2	.....	.....
Alcohol.....	1	1	.....	.....	Laxative cold and grippe tablets.....	1	.....	1	.....
Aromatic spirits of ammonia.....	4	1	3	.....	Lotion.....	1	1	.....	.....
Aromatic solution of oleo resin ginger.....	1	.....	.....	1	Miscellaneous remedies.....	5	.....	.....	5
Compound licorice powder.....	1	1	.....	.....	"Pepsodent".....	1	1	.....	.....
Camphorated oil.....	1	1	.....	.....	"Phosphorets".....	1	.....	.....	1
Castor oil.....	1	1	.....	.....	"Q Ban Hair Tonic".....	1	.....	.....	1
Crude and powdered drugs.....	47	42	3	2	"Sennatoria".....	1	.....	.....	1
Essence of pepsin.....	1	.....	1	.....	"Tan Lac".....	1	.....	.....	1
Essence of peppermint.....	4	2	2	.....	"Tasteless Epsom Salts".....	1	1	.....	.....
Elixir of heroin and terpine hydrate.....	1	1	.....	.....	"To Ho-Ya Oil".....	1	.....	.....	1
Elixir digestive compound.....	1	.....	1	.....	Toilet water and astringent.....	1	.....	1	.....
Elixir peptones.....	1	.....	.....	1	"Tonic Cordial Compound".....	1	.....	1	.....
Fluid extracts, investigational.....	8	.....	.....	8	"Vitasone".....	1	.....	.....	1
Lime water.....	5	5	.....	.....	"Wahoo Compound".....	1	.....	.....	1
Liquor cresolis.....	1	1	.....	.....	"Wine of Life".....	1	.....	.....	1
Liquid petrolatum:					"Ward's Russian Mineral Glycerine".....	1	.....	.....	1
"Petrolene".....	1	1	.....	.....	"Wright's Smoke Flavor".....	1	.....	1	.....
"Russianol".....	1	1	.....	.....	XIX Penetrating Oil.....	1	.....	.....	1
"Stanolax".....	1	1	.....	.....	Quinine sulphate.....	2	2	.....	.....
"Minerol".....	1	1	.....	.....	Spirits of camphor.....	7	4	3	.....
"Liquid hydroleum".....	1	1	.....	.....	Sweet spirits of nitre.....	5	2	3	.....
"Liquid petrolatum," colorless.....	1	1	.....	.....	Solution camphor.....	1	.....	.....	1
"Lilly's Colorless Mineral Oil".....	1	1	.....	.....	Saltpeter.....	10	7	3	.....
Oil of sandalwood.....	1	1	.....	.....	Sodium bromide, 5 gr.....	1	1	.....	.....
Phenacetine.....	1	1	.....	.....	Salol, 2½ gr. tablets.....	1	1	.....	.....
Phenolphthalein tablets, 1 gr.....	1	1	.....	.....	Tincture iodine.....	1	1	.....	.....
Proprietary remedies:					Wax, yellow.....	3	2	1	.....
"Anti Pyretic and Anti Rheumatic Remedies".....	1	.....	.....	1	Whisky.....	1	1	.....	.....
Anti dandruff powder, as to claims.....	1	.....	1	.....	Linseed oil, boiled.....	3	3	.....	.....
Caseidv's herbs.....	1	1	.....	.....	Linseed oil, raw.....	6	5	1	.....
					Turpentine, spirits.....	1	.....	1	.....
					Tupentine, wood.....	1	.....	.....	1
					Totals.....	203	116	53	34

PROSECUTIONS.

*Cases Filed with County Attorney and Terminated, July 1, 1914,
July 1, 1915.**Name, address, case, date filed, and termination.*

AUGUST, 1914.

- Don A. Weltmer, Great Bend. Insanitary condition of bottling works. 8-20-13. \$3 and costs. D.
 W. A. O. White, Holliday. Illegal spirits of camphor. 11-11-13. Out of business; gone to parts unknown. R.
 A. C. Nichols, Lake View. Adulterated spirits of camphor. 8-30-14. Held guarantee from maker. R.

NOVEMBER, 1914.

- John Aden (St. Francis Pharmacy), Wichita. Illegal spirits of camphor. 10-22-14. \$10 and costs (\$15.95). D.
 J. J. Grier Hotel Co., McFarland. Manufactured ice cream, substandard. 11-6-14. \$5 and costs (\$11.25). I.
 Emmett Drug Co. (Roy Bitler), Emmett. Substandard and adulterated sweet spirits of nitre. 6-2-14. \$1 and costs (\$5.15). R.

DECEMBER, 1914.

- John Ward, manager hardware department Dunkel Department Store, Hoyt. Adulterated raw linseed oil. 9-14-14. \$10 and costs (\$6.15). R.
 A. H. Hoffman, proprietor Sunflower Creamery Co., Concordia. Short-weight butter. 12-4-14. \$5 and costs (\$5.50). R.

JANUARY, 1915.

- Fred Laughofen, Herington. Illegal cider. 8-22-13. No action taken by county attorney. I.
 J. W. Hutchinson, Herington. Illegal cider. 8-22-13. No action taken by county attorney. I.
 Geo. Hadlock, Herington. Illegal cider. 8-22-13. No action taken by county attorney. I.
 E. D. Smith, Herington. Illegal cider. 8-22-13. No action taken by county attorney. I.
 M. G. Lathrop, Herington. Illegal cider. 8-22-13 and 11-3-13. Arrested on another charge, jumped bond of \$1000, left for parts unknown. I.

MARCH, 1915.

- Henry Jacobs, Pittsburg. Substandard milk. 3-10-15. \$5 and costs. D.
 W. H. Coffman, Topeka. Substandard milk. 3-6-15. \$25 and costs. I.
 Joseph Kolarik, Caldwell. Sold 1033 bushels bin-burned wheat. 2-25-15. Found not guilty by jury, which was out 3 hours and 30 minutes. D.

APRIL, 1915.

- Dr. W. E. Bentley (Gold Belt Ice Cream Co.), Manhattan. Adulterated ice cream manufactured. 4-7-15. \$1 and costs. R.
 Harry W. Pipher (Gold Belt Ice Cream Co.), Manhattan. Adulterated ice cream manufactured. 4-7-15. \$1 and costs. R.
 Little's Pharmacy, Alta Vista. Adulterated spirits of camphor. 3-7-14. No satisfactory action taken by county attorney. R.
 Chas. P. Banker, Maple Hill. Adulterated boiled linseed oil. 9-13-13. No satisfactory action taken by county attorney. R.
 McFarland Lumber Co., McFarland. Adulterated raw linseed oil. 9-13-13. No satisfactory action taken by county attorney. R.
 A. R. Strowig Implement Co., Paxico. Adulterated raw linseed oil. 10-18-13. No satisfactory action taken by county attorney. R.
 J. E. Wigglesworth, Rosedale. Five counts on exposing for sale, offering for sale, selling and causing to be sold carcasses of diseased hogs. Attempt was made to charge a violation of chapter 185, Laws of 1909. 12-20-13. Trial court held that this particular statute contemplated the prohibition of diseased living animals and not carcasses or meat or parts thereof; sustained by supreme court. Case is at present pending under the food and drugs law of 1907; trial not set.
 J. W. Crist, Wellington. Substandard milk, two counts. 4-9-15. \$20 and costs (\$31.20). D. & I.
 W. Goldman, Leavenworth. Substandard milk. 4-2-15. \$10 and costs (\$5.20). P. & Co. I.
 F. M. Shaver, Wichita. Substandard milk. 4-15-15. \$25 and costs (\$5). R. & D.
 Sturgis Bros., Kanopolis. Adulterated boiled linseed oil. Sept., 14. \$10 and costs. R.

MAY, 1915.

- Jules Gillett, Gate City Bottling Works, Coffeyville. Adulterated pop, saccharin, three counts. 4-20-15. \$10 on each count, and costs. P.
 Steffens Bros., Pittsburg. Adulterated and misbranded pickles; contain salts of aluminum. 6-18-12. No action taken by county attorney, hence terminates by limitation of statute. I.

- Kaufman Creamery Co., Pratt. Manufacture of adulterated and substandard ice cream, four counts. 5-3-15. \$5 on first count and \$1 on three other counts, and costs; altogether about \$25. I.
- Davis Mercantile Co., Topeka. Manufacture and sale of Pa-Da-Ra pancake flour, made from material in part infected with flour beetles, worms, larvæ, dead remains and excreta. 1-14-14. Case dismissed by defendant paying costs, \$12.60. I. & D.
- Davis Mercantile Co., Topeka. Manufacture peach butter, Victorex brand, adulterated; consists in part of a filthy, decomposed and tainted vegetable substance. 2-9-14. Plead guilty and fined \$25 and \$18.65 costs. I. & D.
- Davis Mercantile Co. (John C. Witt, manager), Topeka. Manufacture and sale of Pa-Da-Ra pancake flour, made from material in part infected with flour beetles, worms, larvæ, dead remains and excreta. 1-14-14. Case dismissed by defendant paying \$9.25. I. & D.
- Geo. M. Atwood, Kansas City. Sale of substandard ice cream. 7-25-14. First trial, jury disagreed; second trial, found not guilty by jury. R.

JUNE, 1915.

- A. R. Kagi, Lawrence. Obstruction and failure to assist on request in an inspection and sampling. 5-8-15. Found guilty by jury; \$10 fine and \$34.44 costs. Carried to district court and found not guilty by jury. I.
- Preston Graybill, Hutchinson. Adulterated milk and cream, eight counts on milk and one on cream. 4-15-15. Plead guilty to the first count; was fined \$10 and costs; remaining counts, seven milk and one cream, dismissed on county attorney's responsibility. R. & I.
- W. H. Mott, Mott & Seaborn, Herington. Sale of substandard and adulterated milk. 5-21-15. Plead guilty, fined \$1 and \$3 costs. I. & R.
- Forbes & McGill, Cheney. Sale of bad meat. 6-28-15. Evidence showed there had been several sales of bad meat, but jury decided it was not done intentionally on part of defendants; acquitted. City health officer.

JULY AND AUGUST, 1914.

- F. J. Pietryzk, Kansas City. Amount of opium not declared on "Sweet Rest for Children." 10-28-13. Court dismissed case over protest of county attorney. R.
- F. J. Pietryzk, Kansas City. Illegal spirits of camphor. 10-28-13. Court dismissed case over protest of county attorney. R.
- J. F. Glick Mercantile Co., Pittsburg. Substandard vinegar. 2-26-14. \$5 and costs, \$6.75. P.
- Halley-Masher Mercantile Co., Thayer. Substandard vinegar. 9-27-12. No action taken by county attorney.
- Geo. W. Gelwix, Thayer. Substandard vinegar. 9-27-12. No action taken by county attorney. I.
- Smith & Day, Shaw. Cider vinegar, not the product of pure apple juice. 9-27-12. No action taken by county attorney. I.
- Butler & James, Chanute. Adulterated and misbranded lard. 4-10-12. No action taken by county attorney. I.
- Buell Cream and Candy Co., Salina. Substandard ice cream. 8-24-11. No action taken by county attorney. P.
- Markham Drug Co., Scammon. Adulterated spirits of camphor. 11-20-12. No action taken by county attorney. D.
- Star Drug Co., Fort Scott. Adulterated tincture of iodine. 11-20-12. Company out of business. D.
- W. H. Brooks, Salina. Violation of weights and measures law; short-weight potatoes, apples, etc. 12-23-12. Warrant was issued but defendant not found. B.
- W. E. Fowler, Brookville. Adulterated sweet spirits of nitre. 11-20-12. No action taken by county attorney. R.
- W. H. Cather & Son, Fowler. Adulterated lard. 12-14-12. No action taken by county attorney. I.
- J. D. Dearborn, Barnes. Misbranded and adulterated lard. 4-10-12. No action taken by county attorney. I.
- M. F. Flaherty & Son, Hanover. Adulterated canned corn. 10-14-13. Had guarantee from packer. P.
- W. D. Wooley, Kanorado. Adulterated and misbranded vinegar. 5-19-12. Court dismissed case for want of prosecution. I.
- Harrison & Nelson, Concordia. Adulterated and misbranded powdered sugar. 4-1-12. No action taken by county attorney.
- Swartz-Lynn Mercantile Co., Miltonvale. Sour pickles containing salts of aluminum. 1-19-12. No action taken by county attorney. I.
- Swartz-Lynn Mercantile Co., Miltonvale. Sweet pickles containing salts of aluminum. 1-19-12. No action taken by county attorney. I.
- I. S. Ruth, Scott City. Adulterated and misbranded vinegar. 2-14-12. Investigated by county attorney, who produced affidavits from retailer and wholesaler that the vinegar was not adulterated while in their possession; guarantee from maker.
- Churchill Hardware Co., Oakley. Adulterated boiled linseed oil. 9-13-13. Plead guilty; paid fine and costs. R.
- Adolph Nelson, Scandia. Failure to label bread. 7-29-12. Labels were being printed at the time, and after procuring them labeled as provided by law. P.

SEPTEMBER, 1914.

Lake Superior Lumber Co., Kanopolis. Adulterated boiled linseed oil. 9-1-13. Dropped by department, as investigation showed dealer not entirely to blame. R.
 The Orpheum Pharmacy, Leavenworth. Adulterated sweet spirits of nitre. 9-13-13. No action taken by county attorney. R.
 Dr. J. B. Showers, Richfield. Illegal sale of adulterated essence of peppermint. 8-22-13. Dropped on advice of county attorney. R.
 Grier Hotel, McFarland. Adulterated and misbranded ice cream. 12-12-12. Out of business; no action taken by county attorney. P.

*Cases Filed with County Attorney and Terminated, July 1, 1915,
 to July 1, 1916.*

Name, address, case, date filed, and termination.

JULY, 1915.

Dr. Geo. N. Hartwell, Jamestown. Substandard tincture of iodine. 6-28-15. Plead guilty and fined \$5 and costs in justice court. R.

AUGUST, 1915.

E. H. Burkhart, Hiatt. Adulterated and substandard milk. 8-8-15. Found guilty; fine and costs. D.
 John Schneider, Lansing. Adulterated and substandard milk. 8-8-15. Found guilty; fine and costs. D.
 W. B. Greever, Lansing. Adulterated and substandard milk. 8-8-15. Found guilty; fine and costs. D.
 W. C. Wiehe, Lansing. Adulterated and substandard milk. 8-8-15. Found guilty; fine and costs. D.
 C. L. Walkenwitz, Leavenworth. Adulterated and substandard sweet spirits of nitre. 5-5-15. Found guilty; \$5 fine and costs, \$7.90. R.
 M. Stratos, "Clean Candy Kitchen," Leavenworth. Adulterated and substandard ice cream. 5-5-15. Found guilty; \$5 fine and costs, \$7.90. R.
 Seitz Bros., proprietors Leavenworth Creamery Co., Leavenworth. Substandard ice cream. 5-5-15. Found guilty; \$5 fine and costs, \$7.90. R.
 Frey & Hedges, Leavenworth. Substandard ice cream. 5-5-15. Found guilty; \$5 fine and costs, \$7.90. R.
 Eagle Bottling Works, Kansas City. Sale of pop containing saccharin. 8-11-15. Found for defendant. B.

NOVEMBER, 1915.

A. R. Kagi, Lawrence. For obstruction and failure to assist on request in an inspection and sampling. 5-10-15. Appeal from justice court to district court; acquitted by jury. I.
 C. K. Freeman, Arkansas City. Selling 12 to 13 lbs. potatoes for a peck; 14 lbs. sugar for 16 lbs. sugar; 9 to 12 oz. butter for a pound. 9-18-15. Acquitted by jury. B.
 Homer Gooding and C. Baker, Topeka. Willfully selling and offering for sale eggs which were decomposed and selling cold-storage eggs for fresh. 11-23-15. Fined \$10 and \$5.70 costs each, on plea of guilty. C.

DECEMBER, 1915.

MaKinney Mfg. Co., Columbus. Manufacture adulterated and substandard ice cream. 11-2-15. Fined \$1 and \$6 costs.
 Farrar & Carpenter, Council Grove. Substandard and adulterated milk, four counts. 5-22-15. Dropped on advice of county attorney. R.

JANUARY, 1916.

Sanitary Ice Cream Co. (E. Cook, proprietor), Independence. Manufacture substandard and adulterated ice cream containing only 9 per cent fat. 12-2-15. Case was terminated on account of death of defendant. R.

FEBRUARY, 1916.

Harvey Drug Store (C. W. Harvey, manager), El Dorado. Adulterated essence of peppermint and tincture of iodine. 2-8-16. Out of business. R.
 White House Meat Market (W. F. Williams, manager), Topeka. Short weight; purchased 5 lbs., and received 4 lbs. 1 oz. 12-31-15. Trial by jury; "hung." D. & I.
 Earl Braley, bakery, Horton. Insanitary bakeshop and badly exposed supplies. 2-9-16. Plead guilty; \$25 and \$10 costs. I.

APRIL, 1916.

J. A. Warren (proprietor ice cream depot), Coffeyville. Substandard and adulterated ice cream. 12-7-15. Plead guilty; was fined \$50 and costs. R.
 Andrew Ryherd, Leavenworth. Substandard milk. 4-4-16. Plead guilty; \$5 fine and \$4.60 costs. D.

MAY, 1916.

J. C. Woolsey, Munden. Illegal tincture of iodine. 8-22-13. Old case terminated; no action taken by county attorney. R.

JUNE, 1916.

Geo. M. Atwood. Manufacturer substandard ice cream. 6-29-16. \$10 and costs first count; \$10 and costs second count.

CONDEMNATIONS OF SCALES, WEIGHTS AND MEASURES.

July 1, 1914, to July 1, 1915.

Name, city, articles condemned, and inspector.

JULY, 1914.

Harrison Drug Co., Kansas City. Three Rx. weights. R.
Lindsborg Mill & Ele. Co., Lindsborg. One 98-lb. weight. R.
Oscar Berglund, Lindsborg. Six Rx. weights. R.
J. A. Stockenberg, Lindsborg. Six Rx. weights. R.
Berquist & Anderson, Marquette. Thirteen Rx. weights. R.
Stewart & Talmage Mill Co., Shady Bend. Two 50-lb. weights. R.
J. T. Clements, Bunker Hill. Five Rx. weights. R.
Yost Milling Co., Wilson. One weight. R.
James Latta, Wilson. One Rx. weight. R.
J. Harmon, Yates Center. One 1-lb. weight; one 4-oz. weight. P.
R. M. Duffield, Horace. One Stimpson computing scale, No. 0838. I.

AUGUST, 1914.

H. G. Hackney & Sons, Chanute. Two short weights. P.
Elliott Grocery and Seed House, Chanute. One K. C. scale, No. A. 1914. P.
E. A. Miller, Nekoma. One 10-lb. short weight. I.
Palmer's Opera House Pharmacy, Salina. Three Rx. weights. R.
Shellabarger Mill and Elevator Company, Salina. One Fairbanks platform scale. R.
Frank E. Long, Buffalo. Four short weights. P.
A. L. Ellis, Jetmore. One Stimpson counter computing scale, No. 2680. I.
The Pokorny Pharmacy, La Crosse. Three Rx. weights. R.
Drake & Yarbrough, Piedmont. One K. C. meat scale, No. 6107. P.

SEPTEMBER, 1914.

Solomon Drug Co., Solomon. Two Rx. weights. R.
Brookshire Bros., Winfield. One 2-lb. short weight. P.
Queen Drug Co., Wichita. One pair Rx. scales. D.
600 Pharmacy (C. C. Buchanan, proprietor), Wichita. One pair Rx. scales; eight Rx. weights. D.
Oscar R. Bissantz, Wichita. Five Rx. weights. D.
Bert Doane, Ellendale. One Reliance counter scale. I.
Harry Romigh, Wichita. One pair Rx. scales. D.
C. S. Pratt, Fort Scott. One pair Rx. scales and eight weights attached. D.
J. E. Fink, Homewood. One pair Turnbull patent counter scales. I.
W. White, Ottawa. One 10-lb. weight. I.
West Drug Company, Soldier. Three Rx. weights. R.

OCTOBER, 1914.

Roy C. Bertholf, Cherokee. One pair Rx. scales. D.
N. T. Barnhart, Genda Springs. One pair Anderson computing scales; released on repair. P.
Olsburg Drug Co., Olsburg. One pair Rx. scales. R.
Sorgata Pharmacy and Book Store, Concordia. Six Rx. weights. R.
Robinson Pharmacy, Miltonvale. Three Rx. weights. R.
M. S. Bacon, druggist, "The Ponayo Store," Yates Center. One pair Rx. scales and eight attached weights unfit for use. D.
Will Robertson, Toronto. One pair Rx. scales. D.

NOVEMBER, 1914.

A. E. Johnson, Osage City. Fifteen short weights. I.

DECEMBER, 1914.

A. M. Lewellen, Gaylord. One pair Rx. scales. R.
Dodge City Mill and Elevator Company, Dodge City. One pair Fairbanks scales, used in weighing flour. D.
J. A. Hall, Pittsburg. One pair Anderson scales, No. 10,280. P.
The Western Coal Mining Co., Crawford. One hanging meat scale, National. P.
The Potter Drug Co., Turon. One pair Rx. scales. D.

JANUARY, 1915.

F. L. Robertson, Udall. One pair Rx. scales and six weights. D.
Hygienic Dairy Co., Junction City. One butter scale (rusty and unfit for use). R.
E. Sutton, Hutchinson. One small spring scale. I.

FEBRUARY, 1915.

Geo. Long, Galena. Four short weights (fixed, retested and released). P.
E. C. Keith, Baxter Springs. Four short weights (fixed, retested and released). P.

Name, city, articles condemned, and inspector.

MARCH, 1915.

Van Alstine & Carpenter, Oswego. Eleven short weights (corrected, reinspected and released). P.
 P. O'Reilley, manager, and L. Wash, proprietor, Girard. One Rx. scale and three short weights. D.
 Anna Bruce, Aliceville. One Standard counter computing scale. I.
 W. R. Kerns, Aliceville. One Standard counter computing scale. I.
 C. E. Sidlinger, The Druggist (Arthur Hess, manager), Hutchinson. Ten short Rx. weights. D.
 Dewall's Pharmacy, Hutchinson. One pair Rx. scales. D.
 The A. & A. Drug Co. (Arthur Hess, manager), Hutchinson. Thirteen Rx. weights. D.
 Row Drug Co., Home. One pair Rx. scales. R.

APRIL, 1915.

Farmers Union, Bushong. One Fairbanks platform scale. I.
 Harry Romigle, Wichita. One pair Rx. scales. D.
 M. Scheilthers, Council Grove. Two gallon measures, lacking one-fourth pint of full gallon. I.
 Fischer Grocery Co., Baldwin. One gallon measure, one gill short. I.
 Geo. Beal, Bentley. Two short weights. I.
 Grove & Hughes, Potwin. One gallon measure, one-fourth pint short. I.

MAY, 1915.

O. J. Benson, Ozawkie. One Hamilton Como scale. I.
 Taylor Mercantile Co., De Soto. Cup or measure used for pint in beans, peas and corn, eleven cubic inches short of pint. I.

JUNE, 1915.

D. B. Grocery, Valley Falls. Gallon measure used for sale of oil and gasoline, lacks about six and one-half cubic inches of gallon. I.
 Rinehart Drug Co., Phillipsburg. One Rx. balance, Torsion, No. 12,940. R.
 Frank Kolar, McLain. Gallon measure; lacks about one gill of liquid gallon. I.
 The H. R. Beam Co., Sylvia. Measure used for gallon; lacks thirteen cubic inches of full measure. I.

July 1, 1915, to July 1, 1916.

JULY, 1915.

J. N. Holzapfel, Colony. Four Rx. weights. R.
 R. G. Draper, Greeley. One 4-oz. weight, apothecaries. R.
 J. E. Welsh, Garnett. One 5-gr. Rx. weight. R.

AUGUST, 1915.

Palace Drug Co., Dodge City. Five Rx. weights. R.
 Mosher & Cochran Drug Co., Dodge City. One 2-oz. Rx. weight. R.
 The DeMain Pharmacy, Kinsley. Seven Rx. weights. R.
 Ralph Roby, Spearville. One box Rx. scales. R.
 Trail Drug Co., Kinsley. Five Rx. weights. R.
 Marsh's Center Drug Store, Kansas City. One pair Rx. scales. D.
 Palace Drug Store, Garden City. Three Rx. weights. R.
 Hassig Bros., Kansas City. One pair Rx. scales. D.
 North Rosedale Pharmacy, Rosedale. One pair Rx. scales. D.
 F. A. Orr, Kansas City. One pair Rx. scales. D.
 W. O. Lewis, Kansas City. One pair Rx. Scales. D.
 Armstrong Bros., Atchison. Osgood portable platform scale, No. 71,278 (out of order and must be repaired and readjusted before being used). I and S.
 Aug. Hagen, Atchison. Even-arm counter scale, out of order, ten-lb. weight and two-lb. weight too light. Bowed measuring pump short for gasoline; must not be used for selling gasoline. I and S.
 C. & L. Meyer, Atchison. Am. Cutlery Co's. 4-lb. spring dial scale. I. and S.
 C. L. Baird, Atchison. Vienna candy spring scale. I and S.
 Durst & Weingart, Atchison. Counter spring scale; hanging scale off 2-lb. at zero. Both scales made by John Challon & Sons, New York and St. Joseph, Mo. I. and S.
 A. C. Winsor, Atchison. 10-lb weight; light $\frac{5}{8}$ oz. Bottomless peck measure. I. and S.
 Bloodhart & Poorman, Elkhart. One Rx. weight. R.

SEPTEMBER, 1915.

Joe Demain Drug Store, Macksville. One Rx. weight. R.
 Wimmess Drug Store, Liberal. Two Rx. weights. R.
 Kingsdown Pharmacy, Kingsdown. Four Rx. weights. R.
 Potter Drug Co., Turon. Six Rx. weights. R.
 Tom Morris, Drugs, Sterling. One Torison Rx. balance, No. 23,895, style 269. R.
 Goldsmith & Son, Winfield. One Angedile scale, No. 27,576, for repairs; will not weigh correctly. B.

Name, city, articles condemned, and inspector.

Miller Candy Store, Winfield. One hanging candy scale, No. 377,589, for repairs; off one ounce on one pound. B.
Dee McAlister, Winfield. * One Hamilton scale, No. 377,600: off 1 oz. on 1 lb.; for repairs. B.
Duvall's Pharmacy, Hutchinson. Nine Rx. weights. R.
The A. & A. Drug Co., Hutchinson. Twelve Rx. weights. R.

OCTOBER, 1915.

J. S. Dillon, Hutchinson. One old Stimpson computing scale, No. 1379. P.
E. D. Fish, Druggist, Sedan. Seventeen Rx. weights. R.
Sollitt & Swarta, Druggists, Arkansas City. Nine Rx. weights. R.
B. S. Harrison's West End Drug Store, Atchison. Twelve Rx. weights. D.
W. N. Harris, Arkansas City. Six Rx. weights. R.
J. S. Cree, Arkansas City. Nine Rx. weights. R.
H. R. Fish, Sedan. Six Rx. weights. R.
R. E. Rathburn & Co., Sedan. Three Rx. weights. R.
Elgin Drug Co., Elgin. Four Rx. weights. R.
Caney Pharmacy, Caney. One Rx. weight. R.
Deering Drug Store, Deering. One even-arm balance counter scale. R.
J. A. Winkler, Caney. Nine Rx. weights. R.
Central Drug Store, Coffeyville. Five Rx. weights. R.
Columbia Drug Store, Coffeyville. Five Rx. weights. R.
Kanes Drug Store, Coffeyville. Three Rx. weights. R.
Florea Drug Company, Coffeyville. Five Rx. weights. R.
Kingsbury & Frick, Oswego. Two Rx. weights. R.
Burk Bros. Drug Co., Columbus. Two Rx. weights. R.
Bartlett & Townley, Columbus. Eleven Rx. weights. R.
Geo. P. Bush, Chetopa. Thirteen Rx. weights. R.
Lombe's Drug Store, Edna. Three Rx. weights. R.
Junction Drug Store, Coffeyville. Sixteen Rx. weights. R.
E. & M. Drug Co., Coffeyville. Three Rx. weights. R.
J. L. Lang & Son, Coffeyville. Four Rx. weights. R.
Red Cross Drug Store, Cherryvale. One Rx. weight. R.
Mustard Pharmacy, Cherryvale. Two Rx. weights. R.
Owl Pharmacy, Cherryvale. Two Rx. weights. R.
Butin Bros., Fredonia. Four Rx. weights. R.
Pierce & Coleman, Fredonia. Five Rx. weights. R.
Ross Porter, Neodesha. Three Rx. weights. R.
Owl Drug Store, Neodesha. Eight Rx. weights. R.
J. R. Eson, Neodesha. Six Rx. weights. R.
Corner Pharmacy, Neodesha. Two Rx. weights. R.
People's Drug Store, Cherryvale. Five Rx. weights. R.
W. E. Feess & Bro., Parsons. Nine Rx. weights. R.
Red Cross Pharmacy, Parsons. One Rx. weight. R.
Dryden's Pharmacy, Parsons. One Torsion balance, No. 269, and eleven weights. R.
U. S. Pharmacy, Parsons. Fourteen Rx. weights. R.
K. K. Pharmacy, Parsons. One Rx. weight. R.
W. C. Holmes & Son, Parsons. Ten Rx. weights. R.
Chas. B. Spencer & Co., Iola. Three Rx. weights. R.
Evans Bros., Iola. One Rx. weight. R.

NOVEMBER, 1915.

C. L. Cowan, Drugs, Iola. Seven Rx. weights. R.
Albert L. Stratton, Drugs, Reading. One pair Rx. scales and four Rx. weights. D.
Corner Pharmacy, Independence. Three Rx. weights. R.
I. G. Fowler, Independence. Four Rx. weights. R.
E. Clate Fair, Independence. Three Rx. weights. R.
Santa Fe Pharmacy, Independence. Two Rx. weights. R.
The Scholl Pharmacy, Benedict. Five Rx. weights. R.
M. S. Bacon, Yates Center. One Rx. scale. R.
J. R. Sidwell, Axtell. One pair Rx. scales. D.
Chandler's Pharmacy, Marysville. One pair Rx. scales. D.
Central Drug Store, Hanover. One pair Rx. scales. D.
McPherson Creamery & Ice, McPherson. One pair butter scales. P.
Dr. Swan, Gas. One Rx. scale (white enamel). R.
A. J. Lieurance, Neosho Falls. One Rx. scale, box type, even balance. R.
R. T. McKinney, Drugs, LeRoy. Five Rx. weights. R.
C. E. Lynn, Drugs, Mankato. One pair Rx. scales and six Rx. weights. D.
O. H. Munger & Co., Drugs, Athol. One pair Rx. scales and two Rx. weights. D.
Patton, The Druggist, Frontenac. Four Rx. weights. R.
L. W. Ash, Pittsburg. Eight Rx. weights. R.
Cash Drug Co., Pittsburg. Seven Rx. weights. R.
Pittsburg Drug Co., Pittsburg. Six Rx. weights. R.
Roll Lindburg, Pittsburg. Seven Rx. weights. R.
Crowell's Drug Store, Pittsburg. Nine Rx. weights. R.
J. E. McNaught, Girard. Three Rx. weights. R.
W. J. Briggs, Burlington. Five Rx. weights. R.
The W. W. Drug Co., Burlington. Nine Rx. weights. R.

Name, city, articles condemned, and inspector.

Dan Goddard, McLouth. One liquid measure used in cranberries; 10 cu. in. short. I.
 DeMalorie & Neill, Madison. Five Rx. weights. R.
 Byron E. Eldridge, Thayer. One pair Rx. scales and five Rx. weights. D.
 T. A. Hitchcock, Baldwin. Six Rx. weights. D.
 Jordan's Drug Store, Emporia. Fourteen Rx. weights. R.

DECEMBER, 1915.

C. B. Highbargin & Co., Eureka. Seven Rx. weights. R.
 The Linn Pharmacy, Linn. One pair Rx. scales, and four Rx. weights. D.
 O'Brien Pharmacy, Beloit. One pair Rx. scales, and three Rx. weights. D.
 The Rexall Drug Store, Waverly. Three Rx. weights. R.
 R. E. Marsh, Pleasanton. Six Rx. weights. R.
 Johnson Drug Store, Sedgwick. One Rx. scale, and four Rx. weights. R.
 W. A. Smith, Sedgwick. One Trommer, No. 8 Rx. scale. R.
 W. H. Somermier, Winfield. Three Rx. weights. R.
 Freidenberk Pharmacy, Winfield. Eight Rx. weights. R.
 Plagmann & Doane, Winfield. Four Rx. weights. R.
 A. K. Snyder, Winfield. Five Rx. weights. R.
 Dr. I. T. Gabbert, Caldwell. Four Rx. weights. R.
 Perry Drug Store, Caldwell. One Rx. weight. R.
 J. B. Dickey, Newton. Three Rx. weights. R.
 Rexall Pharmacy, Newton. Fifteen Rx. weights. R.
 John Reese, Newton. Three Rx. weights. R.
 E. E. Conrad, Newton. Six Rx. Weights. R.

JANUARY, 1916.

The Marion Pharmacy, Marion. Three Rx. weights. R.
 R. L. Bailey, Augusta. Six Rx. weights. R.
 S. P. Loomis, M. D., Lost Springs. Four Rx. weights. R.
 Steiger-Hazlett Drug Co., White Water. Three Rx. weights. R.
 C. H. Selig, El Dorado. Three Rx. weights. R.
 The Owl Drug Store, El Dorado. Two Rx. weights. R.
 D. Hogeboom, Pittsburg. Three Rx. weights. R.
 L. P. Barney, Weir City. Seven Rx. weights. R.
 D. Eppinger, Burlington. Three Adv. weights. P.
 L. J. Haines, Galena. Six Rx. weights. R.
 Roy E. Berthoff, Cherokee. Five Rx. weights. R.
 Randall Drug Co., Cherokee. Fourteen Rx. weights. R.
 F. W. Atkins, Fort Scott. Two Rx. weights. R.
 Frank Shoemaker, Fort Scott. Two Rx. weights. R.
 Yager's Pharmacy, Hiattville. One Rx. weight. R.
 Markham Drug Co., Scammon. Five Rx. weights. R.
 Mr. Olmstead, Parker. One Rx. weight. R.
 Burke Bros., West Mineral. Five Rx. weights. R.

FEBRUARY, 1916.

V. B. Ballard, Attica. Three Rx. weights. R.
 Ferris Drug Co., Argonia. Four Rx. weights. R.
 John W. Dennis, Milan. One upright even-arm Rx. balance and 21 Rx. weights. R.
 S. R. Swan, Moline. Four Rx. weights. R.
 Allebach Drug Co., Douglass. Three Rx. weights. R.
 J. A. Miller, drugs, Haven. Nine Rx. weights. R.
 J. M. Henderson, Burden. Two Rx. weights. R.
 S. B. Lawrence, Lawrence. One 5-lb. Stimpson scale, Adv. P.
 D. L. Smisor, Pharmacy, Mt. Hope. Five Rx. weights. R.
 C. E. Pickston, drugs, Liberty. Five Rx. weights. R.
 L. L. Constant, Belle Plaine. One Rx. weight. R.
 C. E. Gillespie, Garden Plain. Fifteen Rx. weights. R.
 Walter R. Hunt, Garden Plain. Five Adv. weights. P.

MARCH, 1916.

Win. Winter, drugs, Savonburg. Ten Rx. weights. R.
 S. H. Braden & Son, Elsmore. Three Rx. weights. R.
 Garside Grocery Co., Atchison. One ½-peck measure, bottomless. I. and D.
 People's Store Co., Effingham. Two short-weight dry measures; a dry pint 11 cu. in. short, and a dry quart measure 9½ cu. in. short. I. and D.
 F. G. Smart, Stafford. Two Rx. weights. R.
 Brock & Mayer, Stafford. Two Rx. weights. R.
 Owl Drug Store, Stafford. One Rx. balance. R.
 L. M. Marshall Merc. Co., Quenemo. One 4-lb. weight. P.
 Chas. Crilly, Galva. Nine Rx. weights. R.
 Red Cross Pharmacy, Windom. One Rx. balance. R.
 Thompson Bros., Roseland. One Detroit computing scale, for repair; off 4 oz. on 7½ lb. B.
 Floyd Little, Kniveton. One No. 30 Hamilton scale, for repairs; off 2 oz. on 5 lb. B.
 Kent & Son, Willis. One Anderson counter scale; slow or heavy, 2 oz. on 5 to 10 lb. I.

Name, city, articles condemned, and inspector.

N. J. Walker, Rock Creek. One cup as pint measure used in dry commodities; short dry pint. I.
 L. B. Breese, Elmdale. Two Rx. weights. R.
 J. O. McClay, Osawatomie. One 200-lb weight short. P.
 F. B. Miller, Osawatomie. One 1-lb. weight short $\frac{1}{2}$ oz. P.
 W. D. Groff & Co., Nortonville. One pair Rx. scales. I. and D.

APRIL, 1916.

Ed C. Faust, Highland. One cup measure used as pint; 12 cu. in. short of dry pint. I.
 Leroy Drug Co., Leroy. One Torsion counter balance spring scale, No. 11,351. R.
 People's Drug Store, Cherryvale. Ten Rx. weights. R.
 W. L. Howe, Almena. Four Rx. weights. D.
 W. A. Cripe, Council Grove. Eight Adv. weights. P.
 Olson Mercantile Co., Beattie. One Stimpson computing scale, No. 250,251, counter. I.
 W. T. Stevenson, Oberlin. One pair Rx. scales. D.
 Walener & Corbiener & Keaney, Luray. One Stimpson computing scale. I.
 Geo. Cullum, Shady Bend. Perfection 30-lb. spring counter scale. I.
 St. Francis Pharmacy, Wichita. Three Rx. weights. R.
 Dunlay Pharmacy, Wichita. Twenty-one Rx. weights. R.
 Shinn Drug Co., Wichita. One box Rx. scales. R.
 W. H. Leonard, Morganville. One quart measure for dry commodities, 5 cu. in. short. I.
 A. S. Marshall, Morganville. One quart measure for dry commodities, $9\frac{1}{2}$ cu. in. short. I.

MAY, 1916.

A. R. Collins, Morland. Toledo counter scale. I.
 R. A. Scherer & Son, Kansas City. Two bottomless measures, 1 and $\frac{1}{2}$ peck. D. and R.
 L. K. Wiles, Central & Ja., Kansas City. One pair Rx. scales. R. and D.
 T. E. Burnes, Agra. One short pint measure. I.
 W. F. Boesehe, Agra. Two dry-measure pints, 11 cu. in. short. I.
 E. L. Kerkley & Son, Agra. One dry quart measure, 12 cu. in. short. I.
 H. Harris, Kansas City. One dry half-peck measure, one dry quart measure, one dry peck measure, one dry half-bushel measure. D.
 Geo. Cannon, Kansas City. One peck and one half-peck bottomless measures. D.
 Ed Stevens, Smith Center. One dry pint measure, 11 cu. in. short; one dry quart measure, 11 cu. in. short. I.
 Geo. Mataxes, Kansas City. One peck and one half-peck dry measures. D.
 R. E. Smith & Co., Kansas City. One peck dry bottomless measure, one half-bushel measure. D.
 M. A. Griffity, Kansas City. One peck, half-peck and one quart bottomless measures. D.
 Chandler's Cash Store, Esbon. One dry quart measure, $9\frac{1}{2}$ cu. in. short. I.
 J. I. Patterson, Esbon. One dry pint, 5 cu. in. short; one dry quart measure, 6 cu. in. short. I.
 Frank Fosburg, Kansas City. One peck and one half-peck bottomless measures. D.
 F. A. Orr, Kansas City. One pair Rx. scales. D. and R.
 Frank Braum, Kansas City. One peck and one quart measures. D.
 G. F. Dunn, Kansas City. One half-bushel and one peck bottomless measures. D.
 S. Griffey, Kansas City. One peck, one half-peck and one quart measures. D.
 M. C. Baldwin, Kansas City. One peck, one half-peck and one quart bottomless measures. D.
 Mrs. M. Cunningham, Kansas City. One bottomless peck measure. D.
 F. D. Blum, Kansas City. One peck, one half-peck and one quart measures. D.
 T. H. Butler, Kansas City. One peck and one half-peck bottomless measures. D.
 J. A. Mann, Kansas City. One peck, one half-peck and one fourth-peck measures. D.
 C. B. Siscus, Kansas City. One peck and one half-peck measures. D.

JUNE, 1916.

Junction City Fruit Co., Junction City. One 50-lb. and one 200-lb. weight. P.
 Abilene Mercantile Co., Abilene. One 1-lb., two 2-lb., one 4-lb. and one 7-lb. weights. R.
 Cooper Pharmacy, Geuda Springs. One Rx. scales. R.
 L. F. Baugh, South Haven. Three Rx. weights. R.
 Dykes Pharmacy, Coldwater. One Rx. scales. R.
 The Durkee Drug Co., Coats. One box Rx. scales. R.
 Hart Mercantile Co., Fostoria. One dry quart measure, 9 cu. in. short. I.

Respectfully submitted.

LEON A. CONGDON, *Chief of Division.*

BULLETIN

OF THE

Kansas State Board of Health.

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S. J. CRUMBINE, M. D., Editor.

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JULY, 1914.

VOL. X.

CONTENTS.

	<i>page</i>		<i>page</i>
Morbidity Statistics for June.....	186	Prosecutions Under Vital Statistics	
A Study in Infant Mortality.....	188	Law	193
A Good Phonetic Speller.....	190	Caveat Emptor	194
Scales, Weights and Measures		Some Other Health Officers.....	195
Condemned	191	A Chapter from the Life of a 'Quack,'	196
Do You Legally Exist?	198	How Measles Spread.	198

Is your baby registered?

"Safety first" with the baby.

If you would keep cool—don't fret!

Some kinds of privies are worse than no privies at all.

The hope and potential strength of the nation—the babies.

The Bulletin sent free to any citizen of Kansas upon request.

Give the baby plenty of water, inside and outside, during hot weather.

Moderation in eating and drinking is essential to comfort and safety during hot weather.

The State Tuberculosis Sanitarium at Norton will be ready to receive patients soon after September 1st.

Your trade in food supplies should be conditioned upon cleanliness; make a visit of inspection occasionally.

Disease is at the root of nine-tenths of the poverty, therefore to prevent disease is to banish most of our poverty.

Effective rural sanitation must be preceded by a knowledge of rural sanitary conditions, which can only be obtained by a rural sanitary survey.

The hereditary transmission of cancer in mice opens up a new field for investigation and research, and a hint of the possible means of solution of the cancer problem.

The juvenile health officer in our public schools is the means of solution of a twofold problem, namely: the insanitary condition of the school room, and the education of the rising generation in the fundamentals of personal and public hygiene and sanitation.

MORBIDITY STATISTICS FOR JUNE, 1914.**Number of Cases Reported to the State Board of Health.**

COUNTIES.	Typhoid fever..	Diphtheria.....	Scarlet fever....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pellagra.....	Polomyelitis...	Mumps.....	Chicken pox....	Other communi- cable diseases
THE STATE.....	54	17	45	157	472	156	1	3	0	98	30	4
Allen.....	1	0	0	9	7	2	0	0	0	5	30	0
Anderson*.....												
Atchison,* except Atchison* city.....												
Barber*.....												
Barton.....	2	0	0	10	1	2	0	0	0	0	0	0
Bourbon, except Fort Scott.....	0	0	0	1	0	0	0	0	0	0	0	0
Brown.....	1	0	0	0	1	0	0	0	0	0	0	0
Butler.....	5	0	0	6	13	14	0	1	0	0	1	0
Chase.....	0	0	0	0	0	0	0	0	0	0	0	0
Chautauqua.....	1	0	0	5	1	4	0	0	0	1	0	0
Cherokee.....	2	1	2	4	26	0	0	0	0	0	0	0
Cheyenne*.....												
Clark.....	0	0	0	0	1	1	0	0	0	0	0	0
Clay.....	0	0	0	3	3	2	0	0	0	0	0	0
Cloud.....	0	0	0	12	5	0	0	0	0	0	1	0
Coffey.....	1	0	3	1	0	0	0	0	0	0	0	0
Comanche*.....												
Cowley.....	3	0	0	1	1	0	0	0	0	0	1	0
Crawford, except Pittsburg.....	0	1	0	5	3	6	0	0	0	0	0	0
Decatur.....												
Dickinson.....	0	1	0	4	0	0	0	0	0	0	0	0
Doniphan.....	0	0	0	0	0	0	0	0	0	0	0	0
Douglas*.....												
Edwards*.....												
Elk*.....												
Ellis*.....												
Ellsworth.....	1	0	0	0	0	0	0	0	0	0	1	0
Finney.....	1	0	0	0	0	0	0	0	0	0	0	0
Ford.....	1	0	1	0	1	1	0	0	0	1	0	0
Franklin.....	1	1	0	4	7	0	0	0	0	0	0	0
Geary.....	0	0	0	0	3	0	0	0	0	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0	0	0
Graham*.....												
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0
Gray*.....												
Greeley*.....												
Greenwood.....	1	0	0	0	2	4	0	0	0	4	0	0
Hamilton*.....												
Harper.....	0	0	0	0	7	13	0	0	0	0	0	0
Harvey.....	1	0	0	2	6	6	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman*.....												
Jackson.....	0	0	0	0	2	0	0	0	0	0	0	0
Jefferson.....	0	0	0	0	0	0	0	0	0	0	0	0
Jewell*.....												
Johnson*.....												
Kearny.....	0	0	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	0	0	0	9	0	0	0	1	0	0
Kiowa*.....												
Labette,* except Parsons.....	1	0	1	10	3	0	0	0	0	5	0	0
Lane.....	0	0	0	0	0	0	0	0	0	0	0	0
Leavenworth, except Leavenworth city..	2	1	1	4	16	2	0	0	0	1	0	0
Lincoln.....	2	0	0	0	15	0	0	0	0	0	0	0
Linn.....	0	0	0	3	0	0	0	0	0	0	0	0

MORBIDITY STATISTICS — Concluded.

COUNTIES.	Typhoid fever...	Diphtheria.....	Scarlet fever...	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pellagra.....	Polomyelitis...	Mumps.....	Chicken pox....	Other communi- cable diseases
Logan*												
Lyon.....	2	0	0	9	16	1	0	0	0	0	1	0
Marion.....	0	1	0	2	0	5	0	0	0	0	0	0
Marshall.....	1	0	0	0	0	0	0	0	0	0	0	0
McPherson.....	0	1	0	1	0	0	0	0	0	0	0	0
Meade.....	0	0	0	0	0	0	0	0	0	0	0	0
Miami.....	0	0	0	6	0	0	0	0	0	0	0	0
Mitchell.....	0	0	0	1	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	0	0	1	1	24	0	0	0	0	0	1	0
Morris*												
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	1	1	0	0	0	0	0	0	0	0	0	0
Nessha.....	0	0	0	8	45	1	0	0	0	12	0	0
Ness.....	0	0	0	0	0	0	0	0	0	1	0	0
Norton.....	0	0	0	0	0	0	0	0	0	0	0	0
Osage.....	0	0	0	0	1	0	0	0	0	0	0	0
Osborne*												
Ottawa.....	0	0	0	0	1	5	0	0	0	1	1	0
Pawnee.....	1	0	0	2	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	1	1	0	0	0	0	0	0	0
Pottawatomie.....	0	0	0	0	0	0	0	0	0	0	0	0
Pratt*												
Rawlins.....	0	0	0	0	0	0	0	0	0	0	0	0
Reno,* except Hutchinson.....	5	0	2	0	0	0	0	0	0	0	8	0
Republic.....	0	0	2	5	0	0	0	0	0	1	0	0
Rice.....	0	0	1	0	0	0	0	0	0	0	0	1
Riley.....	0	1	0	0	2	37	0	0	0	15	0	0
Rooks.....	0	0	6	0	0	0	0	0	0	0	0	0
Rush.....	0	0	0	0	6	0	0	0	0	0	0	0
Russell*												
Saline*												
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0
Seward.....	1	0	4	5	91	4	0	1	0	4	0	0
Shawnee, except Topeka.....	0	0	0	0	0	0	0	0	0	0	0	0
Sheridan*												
Sherman.....	0	0	0	0	0	0	0	0	0	0	0	0
Smith.....	0	0	0	2	0	0	0	0	0	0	0	0
Stafford*												
Stanton*												
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	4	0	0	0	78	9	0	0	0	0	0	0
Thomas.....	0	0	0	1	1	0	0	0	0	0	0	0
Trego.....	0	0	0	0	0	0	0	0	0	0	0	0
Wabaunsee*												
Wallace*												
Washington.....	0	0	0	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	1	0	0	1	2	1	0	0	0	0	0	0
Woodson.....	0	0	1	2	1	0	0	0	0	0	0	0
Wyandotte, except Kansas City.....	0	0	1	1	1	0	0	0	0	0	1	0
State institutions.....	6	5	16	14	59	11	1	1	0	2	1	0

*No report.

A Study in Infant Mortality.

The number of Kansas children under one year of age that died during 1912 was 3112. This is 88 per cent of all births reported during this period of time, or 17.4 per cent of the deaths from all causes at all ages. Compared with the registration area of the United States, the rate is 17.4 per cent in Kansas as to 17.6 per cent in the registration area. While we rejoice that we have a less number of babies die in Kansas than in the registration area, yet we are humiliated that so many short coffins are sold in Kansas, for a considerable number of these deaths might be prevented if our present knowledge concerning the care of the baby was widely disseminated, and the quality and purity of the milk supply and the sanitary condition of the home and its environs were such as sanitarians would approve.

A study of the chart showing the occurrence of deaths by months is interesting as indicating the relation of season to cause of death, and therefore suggests the precautionary measures to be used during those particular seasons of the year.

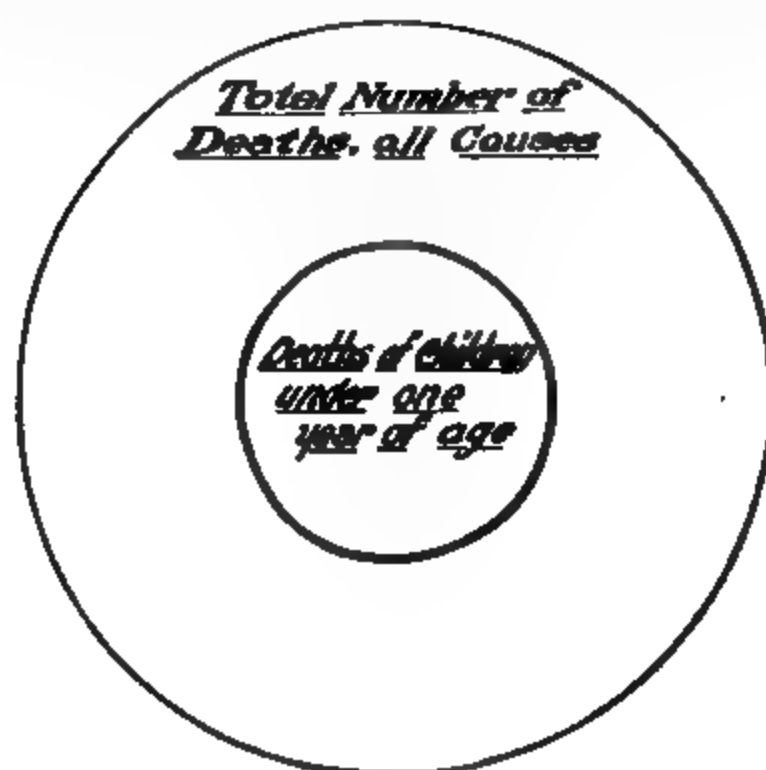
The first curve in the mortality by months is shown in the winter months, beginning in January, reaching its maximum in February, and beginning to decline in March. These are the months for the diseases of the respiratory tract, namely, bronchopneumonia and acute bronchitis, which are so fatal to infant life.

Intelligent regard for better conditions in our homes in the matter of ventilation and heating, and a modicum of common sense used in the proper clothing of the baby, disregarding the freakish fashions and senseless fads in so far as they are contrary to accepted principles of child hygiene, would do much to materially lower this high winter mortality among infants.

A further study of the chart will reveal the comparatively low death rate during the spring months, which should be expected, for at that time the average temperature and other climatic conditions are such as to promote the greatest degree of comfort and body health, hence the maximum of body resistance; moreover, the insanitary conditions of the homes are relieved in a great measure by the open door and window and the absence of extremes in room temperatures by improper heating; then, too, the fly season with its possibilities of food contamination has not yet arrived, and thus we find the most healthful months in the year for the babies are the spring months.

Again we study the chart, and we find that the next curve upward in infant mortality occurs in the summer months of July and August; an examination of the cause of deaths now shows that they are chiefly those of the digestive tract, the so-called gastro-intestinal diseases. The primary causes of these diseases

KANSAS
STATE BOARD OF HEALTH
A Study in Infant Mortality



are to be found in the intense heat of summer, the contaminating influence of the house fly, and improper feeding, which latter includes ignorance, dirty milk, or dirty mothers and nurses.

Here again the question of proper clothing to offset the debilitating effects of summer heat are of prime importance, and a regular time for feeding, as well as the kind and quality of the food, should have intelligent direction. At no other time of the year is the all around care of the baby so important, as its first summer is usually the testing time of its normal strength and vitality.

With the approaching salubrity of the fall months it is noticed that the mortality curve drops sharply in September, to again rise in a moderate curve for the late fall months. Here we note the increased prevalence of the communicable diseases of childhood, brought to the homes by the other children of the family of school age, for the schools over the state are just well under way by the first of October, which, with the usual period of incubation, would naturally make itself manifest during this month. A careful search of the principal causes of death during this period confirms our hypothesis, and thus the third annual curve in the infant mortality study finds a rational explanation.

Would it not be the part of wisdom and the means of saving the lives of many of these "little innocents" if, before entering the schools, each fall, every child had a careful physical examination in order that the seasonal epidemics of the communicable diseases of childhood might not be precipitated upon the opening of the schools which, under present conditions, occur with certain regularity as the years come and go.

The State Board of Health will send to any citizen of Kansas, upon request, its pamphlet on "The Care of the Baby," or its pamphlet on any of the diseases of childhood they may desire.

A Good Phonetic Speller but a Poor Health Officer.

"i am shore that all cases of measels ar not reported & all so hooping Coff thay aint even reported to a Fesitian thay ar in maney cases treeted at home buy thare parance.

G. H. FARMER, Health Officer.

The above report, actually received by the health department of an eastern state, illustrates the necessity of trained physicians as health officers.

Report of the Division of Foods and Drugs, Kansas State Board of Health, Topeka, Kan., on Scales, Weights and Measures Condemned for Period.

July 1, 1913, to July 1, 1914.

<i>Name.</i>	<i>City.</i>	<i>Scales, weights and measures condemned.</i>	<i>Inspector.</i>
JULY, 1913.			
Layton & Neilson	Concordia	3 Rx. weights	R
W. L. McCarty	Concordia	8 Rx. weights	R
W. F. Heitzel	Concordia	1 Rx. weight	R
E. R. Ellis	Pleasanton	1 Pr. Anderson's automatic scales	P
A. F. DeBackey	Perry	1 Rx. weight	R
I. S. Alton (Ill. Store)	Winfield	9 short weights	P
Louis Egle	Winfield	4 short weights	P
Hutchinson Grocery	Winfield	2 short weights	P
Lee Yarbrough	Winfield	6 short weights	P
AUGUST, 1913.			
Frank Arleys	Arkansas City	1 pair hanging meat scales	P
Messrs. Scott & Putnam	Arkansas City	4 short weights	P
Geo. E. Armstrong	Cheney	1 pair standard scales	P
W. S. Quisenberry & Co.	Cawker City	1 Rx. weight	R
Green Drug Company	Green	1 Rx. balance	R
J. E. Wright Drug Company	Miltonvale	3 Rx. weights	R
The Osborne Pharmacy	Osborne	2 Rx. weights	R
Bixby & Potter	Republic	4 Rx. weights	R
H. J. Chapman	Speed	6 Rx. weights	R
Scandia Pharmacy	Scandia	2 Rx. weights	R
SEPTEMBER, 1913.			
L. S. Harvey (Dunlap Drug Store) ..	Dunlap	1 pair Rx. scales	D
Andrew Barro, Station Howe	Goss	1 Dayton scales	P
Andrew Barro, Station Howe	Goss	1 Premier standard scales	P
Debbe Grain Company	McLouth	1 short weight	R
E. C. Read	Parsons	8 short weights	P
Jardine Grocery Company	Parsons	5 short weights	P
J. M. Green	Parsons	4 short weights	P
G. E. Bartholick	Pittsburg	1 short weight	P
N. L. Haskin	St. John	1 peck bottomless measure	I
Downie Bros.	Stafford	1 1/2-gallon vinegar measure	I
C. H. Cain	Tonganoxie	1 Rx. balance	R
OCTOBER, 1913.			
J. W. Archilpohl	Argonia	3 5-lb. weights	P
Reichenberger & Fisher	Andale	1 meat scales	I
Bushto' Roller Mills	Bushton	1 Fairbanks platform scales No. 11	R
G. H. Bonjour, Druggist	Centralia	1 torsion balance No. 1823	R
Council Grove Milling Company	Council Grove	3 short weights	R
Fisher & Hathaway, Elevator and Feed Mill	Council Grove	2 short weights	R
Magerus & Webber	Colwich	1 counter computing scales	I
L. M. Werts	Denison	3 Rx. weights	R
W. R. Frishey	Delia	1 Rx. weight	R
Farnsworth Drug Company	Hoisington	5 Rx. weights	R
Hoisington Drug Company	Hoisington	1 Rx. weight	R
Vola & Birch	Junction City	10 Rx. weights	R
Joe Summerhouse	Kinsley	1 counter scale	I
Sample Drug Company	La Crosse	1 torsion Rx. balance	R
Louis Berger, Pharmacy	Onaga	3 Rx. weights	R
The Onaga Pharmacy	Onaga	1 Rx. weight	R
W. P. Melton	Raymond	1 platform scales	I
W. B. Sama	Vermilion	4 Rx. weights	R
H. W. Andrews	Wellington	4 short weights	P
Gainville Mercantile Company	Wellington	4 short weights	P
J. J. Zimmerman	Wellington	8 short weights	P
NOVEMBER, 1913.			
G. W. Williams	Cleveland	1 pair perfection, 30-lb spring scale	P
Thos. S. Greer	Edgerton	1 Rx. weight	R
J. L. Anderson	Harper	2 pair hanging spring scales	R
J. B. Mitchell	Robinson	2 Rx. weights	R
S. H. Blakeley	Severance	1 Rx. weight	R

<i>Name.</i>	<i>City.</i>	<i>Scales, weights and measures condemned.</i>	<i>In- specter.</i>
DECEMBER, 1913.			
Cleverdon Bros	Leavenworth	2 Rx. weights	R
Geo. E. Forney	Turon	1 pair Rx. scales and 5 Rx. weights	D
JANUARY, 1914.			
Central Coal and Coke Company	Seammon	8 short weights	P
J. H. Knopp	Brasilton	1 pair new Stimpson scales	P
L. S. Squier	Cherryvale	1 pair Rx. scales	D
R. J. Huddleson	Cherryvale	1 pair Rx. scales	D
W. W. Taylor	Colony	1 short and rusted weight	P
J. E. Brogan	Coffeyville	1 pair Rx. scales	D
John F. Conrad	Coffeyville	5 Rx. weights	D
Pinson & Son	Galena	6 short weights	P
Geo. Allen	Gridley	1 hanging meat scale	P
W. G. Jarrett	Galena	1 pair hanging meat scales	P
A. E. Michie	Orois	1 old and rusty short weight	P
W. E. Shaefer	Peabody	1 computing springless scale	I
Patton Coal and Mdee. Company	Rodley	1 pair old scales and 5 weights	P
FEBRUARY, 1914.			
C. A. Lane & Co.	Altamont	5 short weights	P
H. K. Mouring	Altamont	8 short weights	P
J. B. Gordon	Coffeyville	5 short weights	P
Crain & Osborn	Chetopa	1 pair even balance scales and 5 short weights	P
Henry Baden Merc. Company	Independence	6 short weights	P
John Deir, Plumb M. Company	Independence	1 pair K. C. scales	P
A. Eberhardt	Wakarusa	1 short weight	I
Jenkins Bros.	White City	1 old style counter computing scale	I
MARCH, 1914.			
C. A. Stafford	Altoona	14 short weights	P
M. Thurman & Co.	Altoona	4 short weights	P
J. M. Fisher	Caney	3 short weights	P
S. H. McCurdy	Lawrence	1 platform scale weight	S
Litten & Goodson	Neodesha	1 short weight	P
J. R. Heath & Arnold	Neodesha	4 short weights	P
Byrnes & Co., elevator	St. Mary's	1 platform scales	R
APRIL, 1914.			
W. D. Fudge	Augusta	1 pair old style Stimpson scales	P
H. S. Willard	Manhattan	3 Rx. weights	R
Purity Milling Company	Manhattan	1 platform scales	R
Palke & Schaefer	Paola	1 counter scale	I
Flaming & Gebhart	Tassan	1 standard computing scale	I
Woodbine Drug Store	Woodbine	4 Rx. weights	R
Geo. Goudis	Oswatonia	1 computing counter scale	I
MAY, 1914.			
Smiths Drug Co.	Washington	2 Rx. weights	R
Jehlik Pharmacy	Cuba	3 Rx. weights	R
O. A. Stanton & Son	Morrowville	1 Rx. balance	R
W. G. Arnold	Mohaka	1 Rx. weight	R
H. C. Popham	Parker	1 Stimpson computing scale	I
A. Koenig & Co.	Greeley	1 John Chatton & Son meat scale	I
C. A. Johnson Drug Co.	Lynn	3 Rx. weights	R
Dr. R. W. Mainst, Drugs	Lynn	3 Rx. weights	R
JUNE, 1914.			
Maura. Wright, Irland & Co.	Bronson	1 pair Dayton scales, No. 167,553	P
L. J. Kinyon (Drugs)	Bern	2 Rx. weights	R
W. K. Russell	Ossida	3 Rx. weights	R

Prosecutions Under Vital Statistics Law.

The following prosecutions have recently been made for violation of the Vital Statistics Law and a number more are pending at this time. The department has employed a special attorney to look after violations of this law and make prosecution where violations are found, and physicians, undertakers and others who violate the provisions of the law must expect to pay the penalty.

Dr. M. S. McGrew, Holton. Failure to report births; \$20 and costs.

O. J. Windiate, local registrar, Nickerson. Failure to make reports; \$20 and costs.

Doctor Dunlavy, Cherryvale. Failure to report births; \$10 and costs.

Dr. W. A. Farr, Miltonvale. Failure to report births; \$5 and costs.

Dr. H. D. McGaughey, Jamestown. Failure to report births; \$5 and costs.

H. A. Avery, local registrar, Wakefield. Failure to send in reports; \$20 and costs.

Dr. F. A. McDonald, Concordia. Failure to report births; \$10 and costs.

Dr. G. W. Coffey, Concordia. Failure to report births; \$10 and costs.

Do You Legally Exist?

The following item appeared not long ago in the daily papers:

"NO SUCH PERSON; AND SO CAN'T WED
"BY UNITED PRESS CABLE

"Paris, January 6.—You cannot be married because legally you do not exist, was the Lorient registrar's answer to Mlle. Kergue's application to wed. Her birth had not been recorded."

Do YOU legally exist?

Have you legal proof of your parentage? In other words, has your birth been recorded? This is a matter of rapidly-increasing importance in this country.

Failure to record the birth of children to-day will most surely result in much trouble for the man or woman to-morrow. Give your child legal evidence of its existence and of its parentage and save it future trouble and embarrassment, if not worse.

Caveat Emptor.

(Let the buyer beware.)

Caveat Emptor, centuries old maxim of commerce; *caveat emptor*, aged adage of barter and trade; *caveat emptor*, seal of commercial supremacy; *caveat emptor*, motto for fraud and deception, and salve for conscienceless traffic.

Time was when commerce was limited to the interchange of the necessities of life—to the exchange by one person or people of their superabundance of one thing for some other of which they were in need, the same condition prevailing on both sides. Of profit there was no conception. The transaction was simple and direct between the consumer of one article and the consumer of another. There was no attempt to misrepresent or to lower the quality of either product.

With the interchange between many, there arose a common medium for basing values—money. With long-distance transportation and navigation came the question of expense and labor involved, of interest on the capital invested, etc., and profit was the sum this represented. With the growth of commerce this “overhead” charge has become no small item, and there is no argument as to its justness. Who questions the right of such a profit?

But there were those who were not satisfied with this item of payment for labor and interest, and sought still greater margin between cost and selling price. Then began the practices of deception, of the sale of deteriorated and attenuated products, of mislabeled articles, of lowered quality, and those who being thus deceived sought justice or recompense for being cheated were given the solace—*let the buyer beware*.

The nation, preëminent in the art of deception, rose to world-wide commercial power and dominated the earth, but by what a precept? When did duplicity or fraud ever become synonymous with national, business or personal honor? What reasons have we, as a nation, to take pride in our reputation for “Yankee” shrewdness? How much palliation in exclaiming—*let the buyer beware!*

There are those who disclaim this cry. *Caveat emptor* is no longer justification for false practices. Food and drug laws are growing in popularity and the buyer need no longer be deceived if they are properly enforced, and provided he troubles himself by reading the labels on his purchases.

The recent ruling of the U. S. Department of Agriculture in abolishing the legend "Guaranteed under the Food and Drugs Act" has accentuated the necessity of closer observation of labels. Study the contents of your filled carton before you expend your cash. Deception is no longer what it was a century or even a decade ago, and it is a far cry between the coarseness of the methods of deception then and the *finesse* of the art to-day.

And to those who have no interest in labels—who blindly purchase foods and drugs without comprehension of their ingredients, we still give this word of warning—but with a different meaning than that of justifying fraud methods—*caveat emptor*—*let the buyer beware*.—J. J. S.

Some Other Health Officers.

By J. J. SERRY, M. D., Epidemiologist, State Board Health.

In the February *Bulletin* mention was made of "Some Fine Examples of the New Health Officers," and some several names were used to illustrate what the new health officer can do and is doing to promote preventive medicine. They are not the only ones in Kansas, for we have a score or two who are doing splendid public health work and who equally deserve a place on the roll of honor as capable, conscientious officials.

While it is believed Kansas has, as a whole, a corps of public servants equal to any state in the Union, the law of averages prevails in everything, and to maintain that average we must have some health officers who have not as yet realized the definition of the word. We are naming no names and extending no invitations for libel suits, but we could be arrested for what we think of some of this type of health officers (God saving the mark!) We don't mention this matter with any huge amount of pride either. But we have long realized that the public is not a mass of mental defectives, and that it has on the whole a large amount of discrimination in the selection of officials. That some counties do not pay higher salaries for health office work is due to a feeling that what money they are spending is being wasted, and they are probably right. This kind of health officer seems to feel that the office is a small rake-off due him from the public crib, and it is mystifying, in view of his general inertia, why he is not exhausted by the simple effort of filing his salary voucher.

The exigencies of the times are demanding the prevention of disease and better sanitary standards. That the health officer can promote both and has a distinct place as an official public servant is well known to sanitarians and is gradually being acknowledged by the public. To hasten that acknowledgment and to acquire a place in public esteem is a duty resting upon every local health officer. Health officers who have no realization of this fact and who are making no effort to fill the duties of the office, as some are doing, have no place in Kansas, and will receive no sympathy when their respective local boards of health wake up some day and fire them bodily. Furthermore, we are anxiously waiting for some of these local boards to quit "snoozing," and realize that it is time they were securing some return to the taxpayers for money spent in the county health office.

A Chapter from the Life of a "Quack."

By LLOYD A. CLARY, M. D., Hutchinson, Kan.

Here is a chapter from the life of a "quack," "Doctor" William W. Mathews, who owned and operated one of the big "Medical Institutes" in a large city in the East a few years ago. He was really not a doctor at all, and had never even attended a medical college. In reality he was quite ignorant along medical lines, and that fact accounts for many of his iniquities, for he was guilty of many acts harmful to society without being truly cognizant of the real meaning of such acts.

"Doctor" Mathews started early in his career to play the game of politics, and he played it to such good advantage that he became an alderman from his ward and in a few years a power in his party. It was about the time of his greatest eminence as a politician, along with his most impudent disregard for even common decency in his medical advertising, that the agitation for pure food and pure drugs culminated in the enactment of legislation to protect the public against adulteration.

Mathews was a large, jovial fellow, personally likeable. His home life was pleasant, and his love for his only child, a little girl of eight, amounted to a passion. But this pure food agitation took all the smile out of his face. He had reached the summit as a local politician and, as might be expected, Mathews was opposed to anything that tended to regulate either foods or drugs. He was just naturally on the other side. His friends and political

supporters were bakers who wished to be let alone in the conduct of their bakeries; milkmen, who wanted no interference with their legitimate business; restaurant and hotel men, who had a right to kick, so they thought, when some "butinsky" wanted to make them serve clean meals; grocers and butchers, who had always lived happily with the fly and could see no reason for spending money to keep these "harmless" pests out of their business houses—these and numerous others were Mathews' friends. It was preposterous to persecute and harass them by making them carry out a lot of silly regulations some fool health officer might try to enforce!

And such a health officer! He must think he owned the city! Not satisfied with pestering the life out of all the little dealers in foods—poor fellows who had few friends to turn to and he, Mathews, one of the most prominent—not satisfied to attack these little fellows, this blamed health officer had to get "chesty" and jump onto Mathews' especial personal friend, his neighbor, his business associate, the man he played golf with, the man who owned the control of the water-works system, a company that Mathews himself owned stock in! He, that damned health officer, presumed to tell the people that the water they were drinking was not fit to drink, that it contained the germs of typhoid fever! What in Hell was the world coming to? Mathews was sore—sore clear through. He saw no sense in such doings. He did not believe in germs anyway, and would never agree to vote to enforce the erection of any new-fangled pumping or filtering plant.

He wasn't afraid to drink that water. Hadn't he been drinking it for years? Didn't that prove it was good? And hadn't he been eating food bought right there in the city? And wasn't he still alive? He wasn't afraid. In fact, he wasn't afraid of anything—that is, anything except the post-office inspectors. For them he had a wholesome respect. Why, they could put him out of business if they wanted to, and they were the only power on earth, so he assured himself, that could do that thing. Didn't the state medical authorities try it? And didn't he buy himself free without even having to pay a fine? Bah! He wasn't afraid of any health authorities or state board or any other institution of that sort that tried to "persecute" a fellow by making him go to one of their medical schools before he began taking money away from the "dear people."

This chapter in "Doctor" Mathews' life is about to end. Further chapters have not yet been written though there is much of interest and much that might be learned from the life of this "quack"! Here are the few closing lines of this chapter:

One afternoon just after the "Doctor" returned from luncheon a phone message came from his wife saying that their child,

—

Marion, was ill; that she had a raging headache and her nose had been bleeding. Mathews hastened home, but when he got there he did not know what to do for the child except to take her in his arms and soothe and pet her and promise her new dolls and candy and toys. But these things did not help Marion. The next day she had a high fever, and on the second day a trained nurse was called. She came and promptly told the parents that, in her judgment, the child had typhoid fever, and that she would not remain unless a regular physician were called. "Doctor" Mathews blustered and swore and the nurse went away.

Next day Marion was worse. Mathews was wild, and at noon, worn out with worry, he went to the telephone and called up one of the most prominent physicians in town. The physician came, placed two graduate nurses in charge, called in the health officer to inspect the premises and find the source of infection of typhoid, for such it was, and then he told "Doctor" Mathews that he was a fool to have allowed the child to remain sick so long without attention, and that there was now slight hope for her recovery.

One week later Marion died. The health officer said the infection came from the city water.

How Measles Spread.

Measles is most highly contagious in the preëruptive or catarrhal stage. Its early symptoms being those of a bad cold, people either fail to arrive at a diagnosis until the eruption occurs, or else prefer to deceive themselves into the belief that the condition is nothing more than a cold, failing to recognize that even colds are communicable and infectious. But it is this particular phase of the disease which accounts for its rapid dissemination, and many persons are almost of the belief that the measles infection evolves itself out of the atmosphere, regardless of whether it came from a previous case or not. The following history may account for some of the mystery of its spread, which, after all, like an expose of spiritualism or prestidigitation, is no mystery at all. It happened in one county in Kansas.

A farmer and stockman from the little town of A. went to Kansas City with a carload of stock. Nine days later he had a bad cold. He spent two days wandering from store to store in the little town telling his friends what a fearful thing his cold was. The twelfth day the eruption occurred and his physician tacked up a measles sign on the house.

But it was too late. Two weeks later 28 of his friends who had listened sympathetically to his "cold" troubles also had

the measles. In two weeks more 28 other cases resulted, and two weeks later 30 cases—86 in all. That, being nearly the entire population of the town, ended the epidemic in that community.

But of the first crop of 28 cases at A. one visited the home of a physician in the city of B. The physician, not knowing his child was exposed, permitted its attendance at school regularly, and the child “broke out” in school. From this child it spread to 43 families, or 90 cases.

A visitor from the city of C. in the town of A. came home, attended the city schools of C., and the disease spread to over 100 cases there.

During county examinations held in C., and at the height of the epidemic there, a pupil from the city schools of D. was exposed to the infection. In spite of this knowledge this pupil did not cease school attendance, and 30 cases resulted in D.

Pretty fair record, is n't it? Over 300 cases of measles, several hundred dollars in doctor bills, several more hundred dollars in loss of time and wages, demoralization of school schedules in four different towns! Fortunately the undertaker has n't had any rake-off yet, but it remains to be seen how many of these infected persons fall victims to an early death by reason of weakened constitutions and complications as yet undiscovered. And all because one man with a “bad cold” had n't learned that it was his Christian and civic duty to keep his cold at home, where it belonged.

On the other hand, in the same community, here's what might have happened, and in fact did happen.

A man coming from the Northwest was exposed to measles on the train. Realizing he had a bad cold, he remained at home. Eleven members of the family, from the baby six months old to the grandmother seventy years old, had the disease, but the family warned their neighbors, stayed at home, and no spread resulted.

A second man, coming from the Northwest to another part of the county, was also exposed to measles. He too stayed at home. While his sister, a school teacher, had had the disease, yet to avoid any possible spread of infection, closed her school.

A student in the schools of C. went to his home in the country, after having been exposed to the disease during its height in C. When his cold developed he remained in bed, called a physician, who recognized the possibility of its being

infectious, and quarantined, and while three other children in the family took the disease, yet there were no other infections from that house.

Which pays best in the community—the restriction of one individual in spite of his yells for personal liberty and medical freedom, et cetera, or the loss of time and money and the suffering of several hundred persons? Let's be enlightened by some better mathematician, for we can only get one result from all our figuring.

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VOL. X.

CONTENTS.

- Morbidity Statistics for July, 1914, page 202.
Report of Division of Food and Drugs for July, 1914, page 204.
Analyses of Food and Drugs for July, 1914, page 206.
Coined Word Substitutions for Beauty Drugs, page 209.
Dirty Hands and Typhoid Fever, page 213.
The Fly as a Carrier of Typhoid, page 218.
Oysters and Typhoid Fever, page 219.
Abstract of Article on Bread Wrapping, page 221.
A Case of Shock, page 224.
Want List, page 225.
The Point of View, page 225.
Do You Get Up with a Lame Back? page 226.
Better Babies, page 227.
Health Maxims Stolen and Revamped, page 227.
Two Kinds of Grocers, page 229.
Live and Let Live, page 229.
Mother of Five, page 230.
Figures of Speech, page 231.
The Cause of the Babies, page 232.

“Bat the rat.”

When in doubt, boil the water.

Disease is war's greatest ally.

Look out for swelled canned goods.

From flies and filth, to food and fever.

Impure water is the season's greatest danger.

A wholesome water supply is a city's most valuable asset.

You can usually locate the best apple tree in the orchard by
the clubs under it.—*James G. Blaine.*

Typhoid fever is a short circuit between the fecal discharges of
the sick and the mouths of the well.

Failure to report births and deaths is attended by considerable
risk of a fine in the justice court.

The women of Kansas are demanding that a Division of Child
Hygiene be added to the activities of the State Board of Health

MORBIDITY STATISTICS — Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Measles.....	Smallpox.....	Whooping cough....	Meningitis.....	Pellagra.....	Polionyelitis.....	Mumps.....	Chicken pox.....	Other communicable diseases.....
Logan*												
Lyon.....	3	1	1	0	0	14	0	0	1	1	0	0
Marion.....	1	0	0	0	0	22	0	0	0	4	0	0
Marshall.....	0	0	0	0	0	0	0	0	0	6	0	0
McPherson.....	1	0	0	2	0	1	0	0	0	0	0	0
Meade.....	0	0	0	3	0	2	0	0	0	0	0	0
Miami*												
Mitchell.....	1	0	0	0	0	0	0	0	0	0	0	0
Montgomery, except. Coffeyville.....	1 6	2 1	0 0	0 2	2 0	3 3	0 0	0 0	0 0	0 0	0 0	0 0
Morris*												
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	0	0	0	0	0	0	0	0
Neosho.....	6	0	0	7	5	3	0	0	0	1	0	0
Ness.....	0	1	0	0	0	0	0	0	0	0	0	0
Norton.....	2	0	0	0	0	0	0	0	0	0	0	0
Osage.....	1	0	0	1	0	1	0	0	0	0	1	0
Osborne*												
Ottawa.....	0	0	0	1	0	3	0	0	0	1	0	0
Pawnee*												
Phillips.....	0	0	0	0	0	0	0	0	2	0	0	0
Pottawatomie.....	0	1	0	4	0	0	0	0	0	0	0	0
Pratt*												
Rawlins.....	1	0	0	0	0	0	0	0	0	0	0	0
Reno,* except. Hutchinson.....	12	2	2	2	0	1	0	0	0	0	0	2
Republic.....	1	0	0	0	1	1	0	0	0	0	0	0
Rice.....	0	0	0	1	0	0	0	0	0	0	0	0
Riley.....	1	0	0	0	0	43	0	0	0	2	0	3
Rooks.....	0	0	0	0	0	0	0	0	0	0	0	0
Rush*												
Russell*												
Saline*												
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except. Wichita.....	1 10	0 0	0 1	0 12	0 6	9 5	0 0	0 3	0 1	1 5	0 0	0 4
Seward.....	0	0	0	0	0	0	0	0	0	0	0	0
Shawnee, except. Topeka*	1	0	0	6	0	5	0	0	0	0	0	0
Sheridan*												
Sherman.....	0	0	0	0	0	0	0	0	0	0	0	0
Smith*												
Stafford*												
Stanton*												
Stevens.....	1	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	23	1	2	10	3	20	0	0	0	0	0	1
Thomas.....	2	0	0	0	0	0	0	0	0	0	0	0
Trego.....	0	0	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	1	0	0	1	0	0	0	0	0	0	0	0
Wallace*												
Washington.....	4	0	0	1	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	3	0	0	0	0	0	0
Wilson.....	8	0	0	0	0	0	0	0	0	1	0	0
Woodson.....	6	0	0	0	2	7	0	0	0	0	0	0
Wyandotte,* except. Kansas City.....	16	5	0	10	11	6	0	0	0	1	0	0

* No report.

The whole world is aghast at the horrors of the European war with its murderous slaughter, but how much less horrifying is the loss of life from preventable sickness and accidents occurring in America?

Report of Division of Food and Drugs, Kansas State Board of Health, Topeka, for July, 1914.

LEON A. CONGDON, B. S., CHIEF OF DIVISION.

Traveling Food Inspectors: BELL, ICE and PIKE.

Traveling Drug Inspectors: DEEM and ROWLAND.

Directors of the University Laboratories: E. H. S. BAILEY, PH. D., L. E. SAYRE, M. S.

Director of the Agricultural College Laboratory: J. T. WILLARD, M. S.

During the month of July, 1914, our traveling inspectors have visited 173 cities and towns in various parts of the state. Inspections were made in the following places: Arkansas City, Alton, Anthony, Argonia, Augusta, Assaria, Attica, Agenda, Ashland, Axtell, Bassett, Baileyville, Beattie, Burden, Bremer, Belle Plaine, Barnes, Bushton, Beverly, Burrton, Batesville, Bridgeport, Bunkerhill, Benton, Bloom, Bucklin, Belvidere, Burt, Bison, Carden, Cambridge, Culver, Coyville, Chapman, Courtland, Coldwater, Cuba, Claflin, Carlyle, Clyde, Coats, Dorrance, East Iola, Eureka, El Dorado, Ellsworth, Ellis, Elsmore, Fredonia, Fall River, Fowler, Gas City, Grenola, Greenleaf, Geneseo, Gypsum, Greenwich, Greensburg, Grinnell, Grainfield, Home, Hull, Harris, Herkimer, Hollenberg, Hanover, Hamilton, Harper, Hunnewell, Holyrood, Halstead, Haviland, Hesston, Hutchinson, Hargrave, Hollis, Haddam, Hoisington, Horace, Iola, Isabel, Jewell City, Kansas City, Kanopolis, Kingman, Kimball, Lawrence, La Harpe, Lindsborg, La Crosse, Lorraine, Lincoln, Liberal, Lovewell, Leoti, Mulvane, Moran, Merriam, Moline, Marietta, Marysville, Marquette, Milan, Mayfield, Midway, Meade, Minneola, Mullinville, Moundridge, Medicine Lodge, Mahaska, Munden, Neodesha, Neal, Newton, Neosho Falls, Narka, Oketo, Osawatomie, Oxford, Oakley, Olmitz, Otis, Pratt, Piedmont, Princeton, Piqua, Pontiac, Protection, Quincy, Quenemo, Quinter, Rosedale, Richmond, Reece, Rosalia, Rago, Redwing, Seneca, Summerfield, Severy, Scipio, Shawnee, South Haven, Salina, Shady Bend, Scandia, Stafford, Sharon Springs, Savonburg, Stark, Scott City, Sawyer, Topeka, Tescott, Toronto, Towanda, Talmo, Tribune, Utopia, Virgil, Vernon, Waverly, Wellington, Winfield, Washington, Waterville, Wichita, Webber, Wilson, Wayne, Wilmore, and Yates Center.

The following table shows the sanitation of the food and drug establishments inspected by our traveling food and drug inspectors during the month of July. There was a total of 866 food and drug establishments visited. The table shows the kind of place inspected, also the number of these places visited during the

month. The sanitary condition of the food and drug establishments may be summarized by percentages. Of the total number of inspections made by our inspectors, 44.22 per cent were classed by them as "fair," 37.06 per cent as "good," 15.72 per cent "good to fair," and 3 per cent as "poor." This shows that dealers in general should keep their goods in a more sanitary condition. We do not want mediocre stores in Kansas, we must have *good* stores. Most of the trouble seems to be in not keeping the back room clean, not having a sanitary food display of such food materials as dried fruit, bread, pastry, candy, etc. Also, the floors of a great many food establishments are not kept as clean as they should be. Not having the proper protection of food stuffs from the toilet seems to be another cause for the sanitation not being graded high.

SUMMARY OF INSPECTIONS MADE DURING THE MONTH OF JULY, 1914.

KIND OF PLACE INSPECTED.	Num- ber In- spected.	Sanitary condition.			
		Num- ber good.	Number good to fair.	Num- ber fair.	Num- ber poor.
Grocery.....	319	119	46	150	4
Meat market.....	68	22	9	34	3
Grocery and meat market.....	53	11	4	37	1
Bakery.....	55	20	5	27	3
Confectionery and soft drinks.....	7	5		2	
Confectionery and ice cream parlors.....	49	44		25	
Soft drink places at restaurants.....	23	8	5	7	3
Ice cream parlor.....	2	1			1
Hotel and restaurant food display.....	24	8	2	6	8
Bottling works.....	13	5	3	5	
Soft drink place at pool room.....	1	1			
Elevators.....	13				
Feed stores.....	12				
Feed mills.....	2				
Flour mills.....	10				
Tea and coffee store.....	2	1		1	
Grocery, meat market and bakery.....	1		1		
Grocery and restaurant.....	1			1	
Slaughterhouse.....	17	3		12	2
Creamery.....	1			1	
Ice cream factory.....	3		1	2	
Vinegar factory.....	2	1		1	
Pickle factory.....	3	1	1	1	
Canning factory.....	1			1	
Candy factory.....	1	1			
Extract factory.....	1			1	
Wholesale grocery.....	3	1	1	1	
Wholesale coffee and tea.....	1	1			
Wholesale butcher.....	1			1	
Wholesale bakery.....	1			1	
Drug manufacturer.....	1	1			
Patent medicine stocks.....	12	4	3	5	
Drug stores.....	145	72	11	61	1
Doctor's dispensaries.....	1	1			
Miscellaneous; not classed.....	7				
Total.....	866	321	92	383	26

PER CENT OF SANITATION.

44.22 per cent fair.
37.06 per cent good.
15.72 per cent good to fair.
3.00 per cent poor.

RESULTS OF ANALYSES OF FOOD AND DRUGS REPORTED TO THE DIVISION OF FOOD AND DRUGS DURING THE MONTH OF JULY, 1914.

The following table shows the results of analyses of food and drugs reported to this Division during the month of July, 1914.

FOODS.					DRUGS.				
KIND OF SAMPLE.	Number	Passed	Misbranded	Adulterated	KIND OF SAMPLE.	Number	Passed	Above standard	Below standard
Ice cream	18	17		1	Cod liver oil cough candy	1	1		
Flour	6	5	1		*Pepsin gum	3	2		1
Buttermilk	1	1			Nitroglycerin tablets (as declared)	4			4
Evaporated milk	1	1			Elixir nitroglycerin compound	1	1		
Catsup	2	2			Essence of pepsin	1			1
Sardines	4	1		3	Aspirin tablets, 5-grain	1			1
Extract vanilla (concentrated)	1		1		Oil gaultheria	1	1		
Vanilla and tonka compound	1			1	Oil wintergreen	1	1		
Extract of lemon	1	1			Raw linseed oil	1	1		
Cider vinegar	4	3	1		Boiled linseed oil	2	1		
Sugar and distilled vinegar	1		1		Kola extract	1	1		
"Foamers" for soda pop	3			3	Imitation kola	1	1		
Food color	1	1			Spirits camphor	2			1
Orangeade	1	1			Prepared coffee	1			
Rice	1		1		Ground coffee	2	2		
Total	46	33	5	8	Total	23	13		9

*No pepsin detected.

The one adulterated ice cream sample reported was both misbranded and adulterated in that it was greatly deficient in butter fat. The extract vanilla (concentrated) was misbranded since it can not be classed as a concentrated extract. The vanilla and tonka compound was illegally colored with caramel. One cider vinegar was misbranded because it was deficient in acidity; likewise the sugar and distilled vinegar reported was deficient as regards acidity. The "foamers" for soda pop contained a poison in the shape of saponin, a poisonous glucoside. The rice reported was declared misbranded in that the statement on the package declared it to be unpolished when in fact it had been polished. Three canned sardine samples were declared illegal on account of the excessive tin content in solution.

The pepsin gum reported as not containing even a trace of pepsin was declared illegal. In this connection I might state that last month three or four other samples of pepsin gum were declared illegal in that they failed to respond to a test for the presence of pepsin. Much correspondence has been carried on by this Division with pepsin gum manufacturers. Upon notifying one manu-

facturer that our laboratory failed to obtain a positive test for pepsin in this manufacturer's gum, he wrote in part as follows: "As you well know it is utterly impossible to incorporate enough pepsin in a stick of gum to be of any benefit to the user, and from a hygienic point of view, we are fully convinced that the use of pepsin in chewing gum is more detrimental than beneficial, and as soon as we use up our present stock of labels, it is our intention to eliminate both of the above-mentioned articles from our gum. You may rest assured that we shall make sure to put in pepsin to make good all requirements until our present stock of wrappers is exhausted."

The essence of pepsin reported was below the standard as adopted in the National Formulary. The boiled linseed oil declared illegal was high in unsaponifiable matter. The illegal spirits of camphor contained added water. The aspirin tablets were below the standard as declared on the label.

All the nitroglycerin tablets reported were declared sub-standard because they failed to contain the amount of nitroglycerin declared upon the label. It appears that nitroglycerin is unstable in tablet form and deteriorates rapidly. Much correspondence has been carried on with the manufacturers of this product. One company has placed upon the label the warning that this kind of preparation deteriorates, and fresh stock should be purchased often. The writer believes that the date of manufacture of this kind of product should be printed upon the label, thus giving the physician an idea as to its freshness and reliability.

SCALES, WEIGHTS AND MEASURES EXAMINED DURING THE MONTH OF JULY, 1914, BY THE TRAVELING INSPECTORS.

During the month of July, 1914, our traveling inspectors have examined 673 scales, 2145 weights, and 272 measures. They have condemned one scale and thirty-three weights.

SPECIAL REMARKS.

The work of this month has necessitated a great deal of correspondence. We are handicapped for the lack of help in our office force, but we have done the best we could with our available office help for this Division, to whom we express our thanks. The last part of June, we sent out notices to the county and municipal health officers to inspect the slaughterhouses in their territory. We have not received the reports from all, so we will have to leave this part of our report until September or October.

DELINQUENT PROSECUTIONS WHICH TERMINATED DURING THE MONTHS OF MAY AND JUNE, 1914, COVERING A PERIOD FROM MAY, 1911, TO MAY, 1914.

NAME.	Place.	Case.	Date.	Report from County Attorney.
Carl Norlin.....	Johnson.....	Lard, adulterated with cottonseed oil.	4-1-'13	Dropped by County Attorney. I
Dr. J. W. Shepard.....	Leoti.....	Adulterated spirits camphor....	11-20-'12	Out of business and dropped by County Attorney. R
A. B. Zimmerman.....	Troy.....	Sub-standard vinegar.....	5-25-'11	Dropped by County Attorney. B
Harrington & Robertson.....	Coffeyville.....	Lard, adulterated with beef tallow and cottonseed oil stearin.	11-24-'12	\$5.00 and costs. I
James Bellow.....	Beloit.....	Apple cider, adulterated and misbranded.	10-18-'13	Out of business and dropped by County Attorney. B
James Bellow.....	Beloit.....	Blackberry cider, adulterated and misbranded.	10-20-'13	Out of business and dropped by County Attorney. B
G. H. Nippert.....	Beloit.....	"Cider," adulterated and misbranded.	11-14-'13	Out of business and dropped by County Attorney. B
Ninemyer.....	Beloit.....	Misbranded "Sweet Beverage Apple."	11-14-'13	Taken under prohibitory law; \$100 and 30 days in jail.
B. F. Henson, through Englewood Merc. Co.	Englewood.....	Selling lard adulterated with beef tallow.	12-27-'12	Out of business and dropped by County Attorney. I
Rice Bros.....	Ashland.....	Adulterated essence of peppermint.	8-23-'13	Dropped by County Attorney. R
M. Buell.....	Salina.....	Sub-standard ice cream.....	9-10-'13	Dropped by County Attorney. B
L. H. Kress & Co.....	Salina.....	Adulterated bay rum.....	9-13-'13	Dis. sale bay rum; dropped by County Attorney. R
ohn Scheideman.....	La Crosse.....	Selling, offering for sale for human consumption, a diseased animal and parts of animal knowing same to be diseased.	2-2-'14	\$50 fine and \$163 costs. HO
acob Miller.....	Wathena.....	Illegal sweet spirits of nitre....	8-22-'13	Investigated but not prosecuted by County Attorney. R
Jacob Miller.....	Wathena.....	Illegal sweet oil.....	8-23-'13	Investigated but not prosecuted by County Attorney. R
George McLaren.....	Troy.....	Illegal bay rum.....	6-13-'13	Investigated but not prosecuted by County Attorney. R
George McLaren.....	Troy.....	Illegal spirits camphor.....	6-13-'13	Investigated but not prosecuted by County Attorney. R
L. Charonhs.....	Junction City...	Adulterated nuts.....	10-14-'13	Not guilty. B
G. R. Ellis.....	Kiowa.....	Misbranded cider.....	5-19-'13	Sentenced to 1 day in jail and costs of the action. I
David Phillips.....	Coldwater.....	Adulterated camphor.....	4-9-'12	Out of business and dropped by County Attorney. R
Stewart Drug Co.....	Formoso.....	Illegal spirits of camphor.....	8-26-'13	\$5 and costs. R
C. E. Lynn.....	Mankato.....	Adulterated tincture of iodine..	2-24-'13	\$5 and costs. R
Mitchell Bros.....	Valley Falls.....	Adulterated and misbranded lard.	4-10-'12	Dropped by County Attorney. I
W. H. Geret.....	Valley Falls.....	Adulterated and misbranded lard.	4-10-'12	Dropped by County Attorney. I
C. L. Stevenson, Manager Arkansas Lumber Company.....	Beverly.....	Violating linseed oil law.....	9-10-'13	\$10 and costs. R
A. E. Achterberg.....	Lincoln Center..	Violating linseed oil law.....	9-9-'13	\$10 and costs. R
W. Saenger, of Saenger Bros. Hardware Co.	Sylvan Grove...	Violating linseed oil law.....	9-23-'13	\$10 and costs. R
W. O. J. Wyner and R. L. Atwood.....	Greensburg.....	Adulterated beverage.....	9-3-'13	No action taken by County Attorney. P
O. J. Wayland.....	Greensburg.....	Adulterated beverage.....	9-3-'13	No action taken by County Attorney. P
J. C. Case.....	Belvue.....	Violation of linseed oil law.....	4-'14	Court dismissed case without prejudice to a future action. R
Silas A. Welsh.....	Wichita.....	Adulterated and misbranded apple cider.	11- 4-'13	Found guilty by jury; fined \$50 and costs. I

Coined Word Substitutions for Beauty Drugs

By LEON A. CONGDON, B. S., Advisory Member Kansas State Board of Health.

Why pay a large sum of money for a name when you can buy the same thing as the high-sounding name represents at any drug store for a few cents? Whether the drug cures you of falling hair, frees your scalp from dandruff, makes your eyebrows silky, removes superfluous hair, stops the scalp from itching, makes the skin look handsome, frees the skin from blotches, pimples or freckles, acts as a skin food, makes you thin or fat, has nothing to do in comparison with paying a large price for something which costs only a trifle. A high-sounding name with advertised virtues seems to please people who wish to be faked. Our old friend, P. T. Barnum, often said that the American people liked to be humbugged, and humbugged they surely are when they place their hard-earned money in worthless "cure-alls," skin foods, hair tonics, freckle removers, anti-fat remedies, dandruff cures and the like.

Many of these coined word substitutions for beauty drugs are substitutions only in name. If your physician told you to rub epsom salts and borax over your face to make you beautiful, you would laugh at him, but if you read in your newspaper under some such cleverly advertised heading as "Beauty Hints," "Questions and Answers by Mrs. Mae Martin," "Betty Dean," etc., that such and such a high-sounding name preparation would give the desired complexion, down to the drug store you go and procure from your druggist an article composed of epsom salts and borax, but under a fancy name, and with a price attached costing fifty times as much as these simple ingredients.

The manufacturers of these preparations do not use a druggist's or chemist's balance to weigh the ingredients, but simply so many shovels of this chemical and so many shovels of that chemical. This is quite evident because the analysis of these preparations by different states show a wide variation in composition, but have the same advertising in the daily papers as to their virtues. Therefore, the writer has thought best to tabulate these "Beauty Remedies" by just giving the approximate principal ingredients without giving the exact composition, because they very seldom analyze the same as to per cent. The following are grouped under the virtues claimed for them.

Claimed to be "Beautifiers" of the Skin and Complexion.

Amarol, Epp-o-tone, May-a-tone and Sartoin consist principally of epsom salts, with from 8 per cent to 20 per cent of borax or boric acid. Spurmax is nothing but epsom salts perfumed. Saxolite is epsom salts and alum in about equal parts.

Claimed to be "Remedies" for the Skin and for Skin Diseases.

Borax, zinc oxide and sodium thiosulphate or common "hypo" used by photographers for fixing pictures seem to be the principal ingredient of the following: Almazoin, Borothol, Cerol, CitroX, Flowers of Oxzoin, Luxor and Zintone. In Almazoin the approximate principal ingredients seem to be borax, tragacanth, magnesium carbonate, perfumed with benzaldehyde. Borothol consists of 15 per cent borax with remaining part principally sodium thiosulphate, or common "hypo" mentioned above. Cerol is borax and stearic acid perfumed. CitroX consists of sodium thiosulphate ("hypo") colored blue with indigo. Flowers of Oxzoin is zinc oxide in a weak solution of water and glycerine. Luxor is boric acid and zinc oxide, and Zintone is soap and stearic acid with about 20 per cent borax.

Claimed to be "Complexion Rejuvenators."

Over one-half of this class of preparations are composed of the dangerous poison ammoniated mercury. Those that contained this ammoniated mercury are also claimed to be "freckle removers." They are listed as follows: "Freckle Cream," "Mercolized Wax," "Othine" and "Tan-a-zin." "Wrinkle Lotion" is claimed to remove wrinkles, and is composed of 7 per cent alum, 29 per cent glycerine, and the remainder water. Alum will make the skin smooth for a time, but after the effect is worn off the skin is baggier than ever. "Eptol" is composed mostly of soap and water, with 17 per cent borax. "Clearola" is composed entirely of sulphur. "Anti Freckle Lotion" is composed mostly of soap and water with 2 per cent alcohol and 1.5 per cent bichloride of mercury (corrosive poison). "Cuticle Acid" is also mostly water with 10 per cent alcohol and 2 per cent oxalic acid.

Claimed to be "Skin Cleaners."

One of this kind of preparations is listed and consists merely of soft soap. Its trade name is "Gloriol Glowene."

Claimed to be "Complexion Skin Foods."

"Tincture of Cardomine" and "Kulux Compound" are claimed to be skin foods. They certainly are rightly named in the sense of a slang expression. "Tincture of Cardomine" consists of damana, cinchona, phosphorus and strychnine. "Kulux Compound" consists of 12 per cent each of bismuth subnitrate and zinc oxide and 10 per cent or less of glycerine, the rest of the preparation being water.

Claimed to be "Hair Preparations."

Hair Restorers.—Here is a list of four, the principal ingredients being acetate of lead (sugar of lead) and common sulphur. Three of these contain some common table salt in addition. The following are the trade names:

Van's Mexican Hair Restorer.

Barbo Compound.

Hairwand.

Hay's Hair Health.

For Shampoo.—We have listed six of these preparations. Four of these have as the principal ingredient borax. The other two have as their principal ingredient soap, one a cocoanut oil soap (powdered form), and the other common soft soap, artificially colored. The trade names are:

Am-o-tone.

Quintone.

Capthol.

Therox.

The soap preparations are Canthrox and Gerrard's Royal Liquid Shampoo.

For Hair Dressing.—Two preparations of this nature are here listed: "Capo Oil" and "Adora Hair Dressing." The principal ingredient in these was found to be wood alcohol, a dangerous poison. Wood alcohol is known to have caused blindness. The sale in Kansas of preparations containing wood alcohol is prohibited.

For Dandruff and Hair Tonic.—The principal ingredients of two of these preparations were bicarbonate of soda (common baking soda) and ground quassia, and a very small amount of quinine. The trade names are "Quinzoin" and "Quinola."

For Silky Eyebrows.—The principal ingredient of one preparation listed was perfumed vaseline. The trade name is "Pyroxin."

Hair Removers.—"Delatone" and "Delol" both contain as their principal ingredients barium sulphide (a corrosive irritant) twenty-odd parts, and common starch. "Delol" contains zinc oxide in addition to the ingredients named. "El Rado" and "Sulpho Solution" have as their principal ingredients sodium sulphide and water. "El Rado" has in addition about 10 per cent of glycerine.

Hair Growers.—Herpicide contains about 1 per cent of salicylic acid with the remaining part alcohol and water.

For Scalp Itching and Falling Hair.—"Beta Quinol" and "Beta Canthol" both consist of alcohol and small quantities of beta naphthol, resorcine, menthol and quinine.

"Plain Yellow Menyol" consists mostly of common table salt and water with about 3 per cent fat.

"Quintone" contains principally hyposulphite of soda—common hypo as used in "fixing" photographs—and a little borax.

Claimed to be "Flesh Reducers."

"Parnotis," which is claimed to be a "flesh reducer," seems to be a joke of common baking soda and glauber salts.

"Marmola," another exploited flesh reducer, is principally composed of phenolphtholein (a chemical laboratory reagent) and dried thyroid gland. Thyroid gland extract should only be used upon the advice and under the direction of a reputable physician.

In closing, the writer quotes from Porter:

"I know of a harmless enough patent medicine consisting of 99 parts advertising and one part ordinary spring water, which is exploited to cure not only tuberculosis but also cancer, falling of the hair, insanity, epilepsy, drunkenness, disorderly conduct and pimples."

"Good morning, Mrs. McCarty!" said Mrs. Ryan, as the friends met at the market. "How's all the folks getting along?"

"They be all doin' well," replied Mrs. McCarty, "except my old man. He's been enjoyin' poor health for some toime, but this mornin' he complained of feelin' better."

They've Looked Everywhere.

Thelma, the little daughter of Mr. and Mrs. Allen Morehouse, misplaced her right arm this week.—*Three Oaks Acorn.*

Dirty Hands and Typhoid Fever.

MARK W. RICHARDSON, M. D., Secretary of the Massachusetts State Board of Health.

In the *Journal of the Royal Army Medical Corps* for June and July (1913) appears a most important article on the Causation and Prevention of Enteric Fever in Military Service, by Maj. S. L. Cummins, and the conclusion reached in this article, though written from a military standpoint, can, in most instances, be utilized equally well under the circumstances attending typhoid or enteric fever as it appears in civil life. I have selected a single phase of the subject as presented by Major Cummins, and that is the possible role of unclean hands in the spread of this disease. Major Cummins in his work made the following interesting series of experiments:

The following technique was employed in all the experiments:

The fingers were washed in a small quantity of sterile water in a sterile "Petri" dish, or watch glass; the resulting dirty water was added, as a rule, to bile salt peptone water or else centrifugalized, and the deposit plated. The fingers, too, were passed over the surface of bile salt plates while still moist after washing. The media were then incubated and examined for *B. typhosus*.

EXPERIMENT I. (July 26, 1909.)—Fingers of fecal carrier S. examined. Result: Negative.

EXPERIMENT II. (November 2, 1909.)—Fingers of urinary carriers F. I. and S. examined (one hour after passing urine). Result: Carrier F. I., *many colonies of B. typhosus* both on "direct" plates and from the bile salt peptone water. Carrier S., negative.

EXPERIMENT III. (November 6, 1909.)—Two urinary and three fecal carriers were paraded without previous warning, and with no reference to the time since excreta had been voided. The fingers of all were examined as above. All were negative as regards *B. typhosus*. From fecal carrier L., however, a fair number of motile Gram-negative bacilli were isolated, giving the cultural reactions of *B. fæcalis alkaligenes*. They were, however, agglutinated completely by a 1 in 100 dilution of antityphoid serum, and partially in dilutions up to 1 in 400. It may be added that the strain of *B. typhosus* from carrier L. was very resistant to agglutination, only reacting completely up to 1 in 200 of the same antityphoid serum. Unfortunately, the culture kept for further examination was thrown away inadvertently when changing stations, and we were unable to go more completely into the nature of the interesting organism isolated from the fingers of carrier L.

The series of experiments quoted serves to prove that *B. typhosus* itself, as well as other fecal organisms, can be isolated from the fingers of "carriers," a fact of great importance in connection with the contamination of food supplies. The following experiments show the effects of washing and removing the bacilli from infected fingers:

EXPERIMENT IV. (September 26, 1912.)—To ascertain whether a finger infected with urine is easily sterilized. Dipped the tip of the right index finger

in the urine of typhoid carrier A. (Proved to contain upwards of 3,000,000,000 per c.c.) (a) Rinsed in lysol solution (approximately 2 per cent). (b) Then held the finger under the tap, rinsing first in cold, then in very hot water (temperature not recorded). (c) Washed very carefully in about 0.5 c.c. of sterile water in a watch glass, and plated the whole of the water used for this purpose. Result: Three hundred and thirteen colonies of *B. typhosus* on the plate. (d) After the washing in sterile water mentioned under (c), the tip of the finger was thoroughly soaked in absolute alcohol, allowed to dry, and the washing in sterile water repeated. The "washings" were again "plated." Result: Four colonies of *B. typhosus*.

EXPERIMENT V. (October 3, 1912.)—Contaminated the tip of left second finger with urine from carrier A. (a) Allowed the finger to dry; (b) washed very thoroughly with soap and water under a running tap. *Dried thoroughly with a cloth.* "Washed" thoroughly with 0.5 c.c. of sterile water in a watch glass and plated the "washings." Result: No *B. typhosus* isolated. (c) Finally dipped the finger in lysol solution (2 per cent), scrubbed, dried with a cloth, "washed" as before and plated the "washings." Result: No *B. typhosus*.

The first experiment shows that it may be very difficult to free a finger from contamination by *B. typhosus*. The second attempt was successful, possibly owing to the fact that the fingers were thoroughly dried with a cloth, the mechanical friction apparently helping to remove the bacteria. Even if this were the case, it only means that the cloth became infected, and the danger of contaminated fingers remains obvious.

In this connection, I will recall to your attention some experiments made by Mr. Henry N. Jones, bacteriologist of the State Board of Health, who has found *B. coli* on three out of twelve towels taken from a number of toilet rooms accessible to a considerable number of persons. Mr. Jones summarizes his results as follows: "A considerable portion of public roller towels becomes contaminated with human feces. An unknown number of human "carriers" have typhoid bacilli in their feces. How many cases of typhoid fever are contracted through contact with soiled roller towels?"

Now, in 1913 (year ending December 1), 2363 typhoid fever cases were reported to the State Board of Health of Massachusetts. Inasmuch as it is estimated that 4 per cent of typhoid fever patients become chronic carriers, it is evident that approximately ninety-five "carriers" were added in 1913 to those previously in existence. Moreover, it is stated that women exceed men as chronic carriers of typhoid infection in a proportion of five to one, a most significant fact when it is considered that women, far more than men, are concerned with the handling of our food supplies. Under the circumstances, the wonder would seem to be that we do not have a much larger amount of typhoid fever. If a single drop of urine can contain 3,000,000,000 typhoid bacilli, what can we

think about the waiter's thumb which gets into our soup and the none-too-clean fingers of the farmer who milks the cows?

Now as regards typhoid carriers, there is no doubt, in my mind, that the urinary carrier is far more dangerous than the fecal carrier, for urinary infection is practically always constant, whereas fecal infection oftentimes is very markedly intermittent, and in this connection it is important to point out, as shown by Major Cummins, that the carrier condition may be much aggravated by a number of different factors, for instance, under conditions of rest and quiet, the bacilli in both feces and urine may drop to very moderate numbers. In the process, however, of extreme muscular work, such as is seen in a military campaign, the bacilli increase very markedly in number. Furthermore, it has been noted that treatment of typhoid carriers with specific typhoid vaccine increases temporarily to a great extent the number of bacilli excreted.

Another interesting feature pointed out by Major Cummins is the following, that severe diarrhoea will often bring to light typhoid bacilli in the feces of a carrier when they had been absent previously for long periods of time. Major Cummins explains this increase as caused by the rapid passage through the intestinal tract of the typhoid bacilli from the region of the gall bladder to the rectum. Because of this rapid passage, the typhoid bacilli escape a strong inhibitory action exerted ordinarily by the *B. coli communis*. Indeed, another experiment by Major Cummins shows apparently that *B. coli* has this strong antagonistic action on the typhoid bacillus. It was found, for instance, that the growth of the typhoid bacillus in unsterilized milk ceases in a short time because, apparently, of the presence in the milk of *B. coli*, whereas in sterilized milk the typhoid bacillus increases almost without cessation. This feature, of course, has a very important bearing upon the handling of pasteurized milk.

What can we do to eliminate this danger which we run constantly of typhoid infection through the uncleanly habits of typhoid carriers? As far as fecal carriers are concerned, all efforts at the present time have failed to discover any method of cure. Furthermore, urinary carriers, especially of the subacute and chronic type, are very slightly susceptible to curative treatment. A few will yield to the administration of hexamethylenamine. I believe, however, that this drug, used from a preventive standpoint, may be of great importance. I have recommended for a number of years that all cases of typhoid fever be given hexamethylenamine in doses of five to ten grains each, three times a

day, throughout the course of the disease, and, with such treatment, I believe that the development of the carrier condition, as far as the urinary tract is concerned, may be prevented. I shall never forget the theatrical effect produced by this drug upon the infected urine, as observed during the acute course of the disease. A urine absolutely clouded with bacilli would become oftentimes perfectly clear within twenty-four hours. This, as I have said, is the favorable time for the exhibition of this drug, when the condition is simply that of bacteriuria and before any marked pathological changes have taken place in the mucous membrane of the urinary tract. By active efforts, then, in the direction thus indicated, I have no doubt that the number of urinary carriers in any community can be very distinctly cut down, and this reduction in the number of carriers can not fail to be of the greatest importance as regards the incidence of the disease.

What shall the health officer do when these chronic carriers have been discovered and when it has been demonstrated that no therapeutic measures remove the dangerous conditions? To be logical, typhoid carriers, be they of the fecal or urinary type, should be kept under the supervision and control of health officers as long as their dangerous properties are known to persist, but a period of quarantine which might necessitate individual restraint for a period covering forty or fifty years is, of course, not to be thought of. In our pamphlet concerning the control of typhoid fever, the State Board of Health has been accustomed to recommend that no typhoid convalescent be discharged from observation "until two consecutive negative examinations have been made of the stools and urine. If the patient's business brings him in contact with food supplies, four consecutive negative examinations of the stools and urine should be required. In case a person is found to be, in spite of all treatment, a chronic carrier of typhoid bacilli, he should be kept under competent supervision by the local board of health, he should not be allowed to engage in occupations requiring the handling of foodstuffs, and, in case he moves to another neighborhood, the local health authorities of that neighborhood should be notified at once."

It has been pointed out that to a certain extent, at least, the requirements just stated can be of comparatively little avail, because fecal carriers, being highly intermittent as regards the excretion of typhoid bacilli, can by no means be regarded as without danger, even in the presence of several negative cultures. It has been proposed, therefore, that such examinations be not

required and that *every* typhoid convalescent be strongly impressed with the possible dangers he may inflict on others in his surroundings.

While I should be willing to accede to a certain extent to the arguments advanced above, at least as far as the fecal carriers are concerned, I believe that the examination of urine can not, under any conditions, be given up. The urinary carrier, representing as he does a maximum of potential infection, and moreover, infection which is likely to be constant for months or years, must without doubt become subject to a supervision infinitely more exacting than that necessary for a fecal carrier. I would, therefore, still require examination of stools and urines of the convalescent, recognizing the fact that a negative report from the urine is of the greatest possible value, also recognizing, however, that a negative result from the stools is of practically no value.

Finally, as far as unclean hands are concerned, our course, as regards typhoid infection, would seem to resolve itself into the two following propositions: first, that inasmuch as no person can be absolutely certain that he is not a typhoid carrier (for, of course, it is well known that a healthy human being, and especially those attendant upon typhoid patients, may become a temporary typhoid carrier, even though he has not suffered from the disease itself) every one should, as far as possible, wash his hands with scrupulous care after any possible contamination with feces or urine; and, secondly, that no one should think of handling food, either for his own use or for others, without carefully washing his hands.—*Massachusetts Bulletin*.

To All City Fathers in Indiana, Greetings.

The kind of city a city is may be known by the alleys it keeps.

The kind of city a city is may be known by the number of flies it keeps.

The kind of city a city is may be known by the amount of spit on its sidewalks.

The kind of city a city is may be known by the number and size of the manure piles it keeps.

The kind of city a city is may be known by the number of dilapidated, foul-smelling privies it keeps.

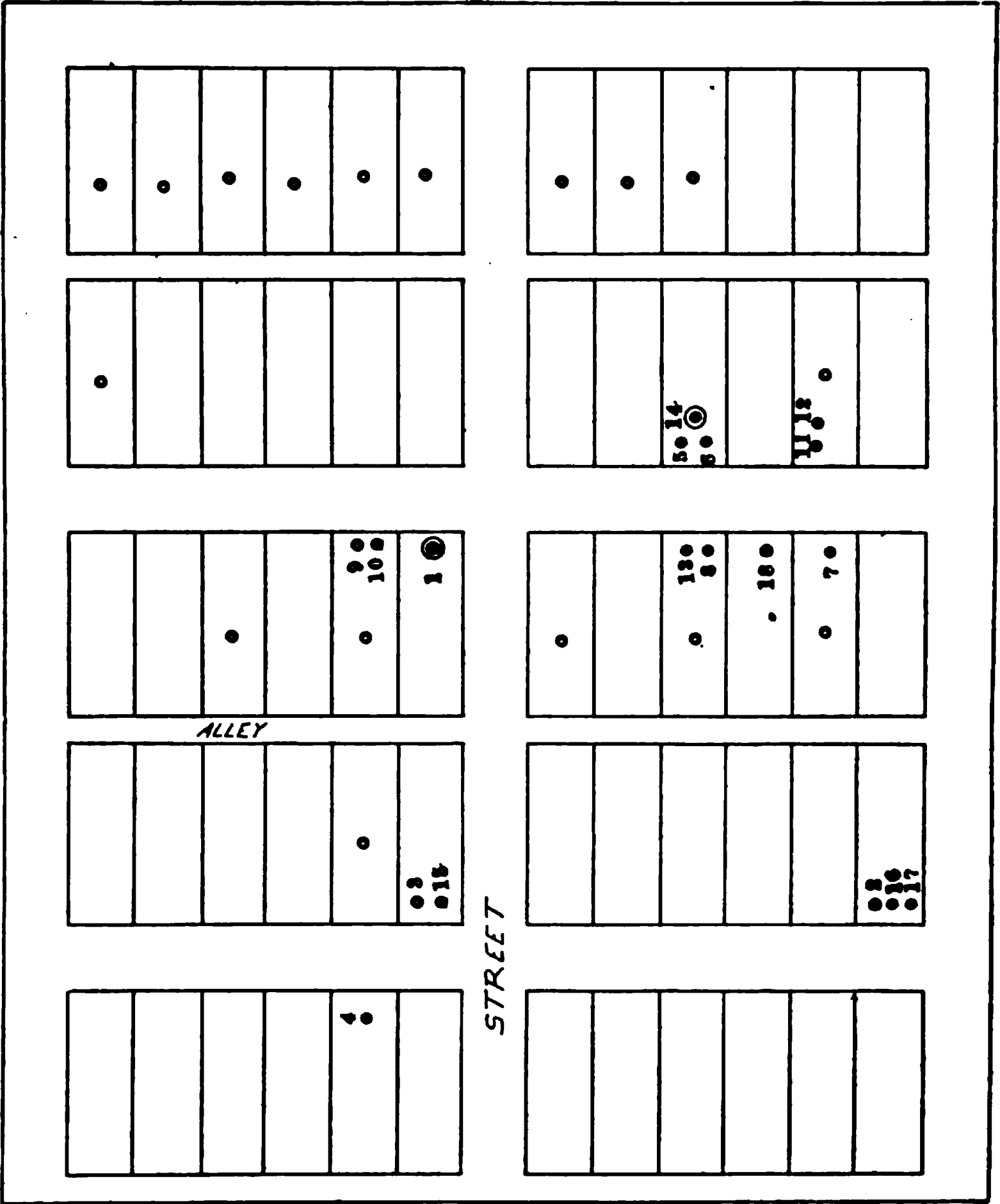
The kind of city a city is may be known by the ratty, unsanitary schoolhouses it keeps.

The kind of city a city is may be known by the amount of garbage it don't collect and dispose of in a sanitary way.

The kind of city a city is may be known by the number of its loafers and spitters.—*Indiana Bulletin*.

The Fly as a Carrier of Typhoid.

In a recent issue of the *Bulletin* it is pointed out how the typhoid rate rose during the summer months together with the direct increase of the number of flies. As a specific instance of the fly as a carrier of the infection, the recent experience of the city of Winfield, Kan., may well be cited. Case number one was taken ill on June 17, his infection evidently having been acquired from some isolated well, since his occupation, being that of a tinner, necessarily involved his drinking of various water supplies. The



EXPLANATORY: Numbers indicate order of cases by date of onset. Cases •. Deaths •. Wells •. All others supplied by city water.

case being diagnosed as one of intermittent fever, no care was observed by the family or attendants in the disposal of discharges, and there was plenty of evidence of where excretions had simply been thrown in the back yard. Beginning with June 30 and running on up into the middle of July some twenty cases had developed in the immediate neighborhood, all within a radius of some 350 feet. There was no other evidence of a common source of infection of these cases, although a most searching investigation was made. While some of the water supplies of these families were clearly suspicious, yet the fact, with the exception of two families who drank from the same well, there was no common source of water supply, would seem to indicate that the infection was clearly fly borne.

The number of deaths occurring was 2, a mortality rate of 10 per cent. It speaks well for the local health officer and sanitary officers in that city, that immediately upon the advent of the outbreak a most thorough clean-up of the afflicted neighborhoods was made, three visiting nurses placed in charge of the cases, and a widespread anti-typhoid vaccination insisted upon, with the result that the epidemic was brought under immediate control.

The map on preceeding page will illustrate the location of cases.

Oysters and Typhoid Fever.

There are seasons of the year when the instances of infection with the organism of typhoid fever can be traced to their source. The greater outbreaks are usually due to infected water, milk or other foods, while the smaller groups and isolated cases can best be explained by contact infection. The carrier has been shown to be the link between hitherto unconnected cases. For many years no form of air infection (except dust) has been said to be a cause of typhoid, and the reports of outbreaks of dust-borne typhoid fever in the Spanish and Boer wars and in India are based on the flimsiest evidence.

We have not forgotten the ubiquitous house fly as a frequent carrier of disease, says *The Journal of the American Medical Association*. In many of our states, however, insects of this type are excluded as effective agents of infection because of the climate during the colder months of the year, so that we can not fall back on the convenient hypothesis of "transmission by flies." Ever since Conn's report indicating the occurrence or cases of typhoid fever in epidemic form as the result of the use of oysters contam-

inated with sewage, there has been a growing tendency to attribute the origin of much of the winter typhoid fever in certain districts to sewage-polluted bivalves.

It is time to ascertain whether this attitude toward the oyster is justified by the facts. Oysters are a highly prized article of diet wherever they are obtainable. Despite the increasing enforcement of rigid regulations concerning the vending of oysters that are free from pollution according to the standards of such representative bodies as the Bureau of Chemistry of the United States Department of Agriculture, the Rhode Island Shell-Fish Commission, and the Kansas State Board of Health, the prejudice against this food product has, justly or unjustly, increased in many quarters. To consider only the alleged responsibility of the oyster in the causation of winter typhoid, we may ask what its habits are at this season. Gorham has shown that during cold weather oysters rest or hibernate; movement ceases and feeding does not occur, and the oysters become practically free from sewage organisms, even when lying on sewage-polluted beds.

As such facts seem to throw some doubt on the wisdom of attributing winter typhoid to the oyster, Joseph has made a bacteriologic study of the oysters sold in Baltimore. The aim of this investigation, conducted in the Laboratory of Hygiene and Bacteriology at the Johns Hopkins University, was to ascertain whether the oysters sold in one of the most prominent markets for these products in the United States contain typhoid organisms derived from the intestinal tract, and whether their content varies with the seasons of the year.

The bacterial findings indicate that the oysters sold in Baltimore are in general free from sewage contamination. Those few lots which would be condemned by the most rigid standards were obtained at times of the year when the weather was quite warm—a fact of no little significance in view of the tendency to prolong the oyster-eating season beyond the limits of the colder months. One of the most striking points brought out was the distinct change in the character of the oysters, according to the time of the year. In the early fall the scores were high, in the cold weather of midwinter low, and again high in the spring. On no occasion were the bacteria which cause typhoid found.

Abstract of Article on Bread Wrapping.

By H. E. BARNARD and H. E. BISHOP, Indianapolis.

The importance of protection for bread and bakery products is becoming more and more appreciated. The loaf as it leaves the oven is practically sterile. Yeasts and most bacteria are killed by the high temperature. The temperature of the interior of the loaf reaches 101° to 103° C. and of the outside 125° to 140° C. Sadtler in a report to the National Association of Master Bakers showed that the colon bacillus was present in 17 per cent of the unwrapped bread samples. Samples of wrapped bread showed relatively low bacterial counts and no pathogenic organisms. The wrapping of bread also tends to keep out the spores or bacteria which get into the crust and grow into the crumb. These cause moldy bread. The spores of *Pencillium glaucum* develop quickly on the crust of bread if kept in a damp place. Because the consumer desires fresh bread, bakers usually follow the practice of returning to the shop bread left unsold at the end of one or two days. This is called stale bread and has less commercial value, though in reality it is just as nutritious and sometimes more wholesome than the fresh bread. It is important to avoid the loss necessitated by the return of stale bread. Fresh bread contains more water in the interior than in the crust of the loaf. The interior is in the colloidal condition; but as the bread grows old, the ratio of water between the crust and crumb is changed, the fixation water of the crumb leaving it to be absorbed by the drier crust. When the water content falls below 30°, heating does not remove the staleness. Several theories have been advanced as to the actual condition which produces stale bread. A recent theory is that fresh bread contains water chiefly in the uncombined state, but when heated the moisture content gradually enters into chemical combination. When this process is completed, the bread is stale. Upon heating the union of starch and gluten with water is severed and the bread again becomes fresh, if sufficient water is present. This fact has a bearing on the practice of bread wrapping if it can be shown that wrapped bread loses its moisture content more slowly than when the bread is not protected against evaporation.

In regard to free acids, the free acids present in bread are

for the most part a product of fermentation. The acid reaction is caused by free organic acid and acid potassium phosphate. Lehman shows that the volatile acids, chiefly acetic, constitute about two-thirds of the total acids.

Bread wrapping has been in use for some time and the use of wrappers has received public approval and has been made the subject of legislation in some cities and states. Some bakers find wrapping profitable because it lessens the loss due to stale bread and increases the approval of consumers. Others object to the process on the ground that it is too expensive and that wrapped bread loses its flavor and becomes unpalatable more quickly than unwrapped bread. Investigations that have been made show that ordinary bakers' loaf wrapped in paraffin paper retained its good condition for three or four and sometimes five days, while the unwrapped loaf became dry at the end of two days. Paraffin paper was more satisfactory than the porous wrapper. Thomas (North Dakota) studied the practice of wrapping bread in paraffin paper. The paper was of such a quality that the loaf was practically sealed from the air. The unwrapped loaf lost moisture rapidly, together with flavor and aroma. It was stated by one author that wrapping did not prevent the bread from becoming stale after thirty-six or forty-eight hours. White in the same experiments showed that bread made under cleanly conditions does not grow acid, whether wrapped or not, even after one hundred and eight (108) hours. Bread wrapped while hot causes an increase in the acidity of the inside portion of the loaf as compared with the crust.

It has been claimed by bakers that when bread is kept in a close, warm, moist atmosphere from the time of baking or when new it is far more likely to develop sourness and mold than if stored where it may rapidly cool and lose an excess of moisture. Barnard and Bishop, of Indiana, have made experiments in regard to this matter upon different kinds of bread under various conditions. Their experiments show that the moisture content of all the straight dough pan breads dropped off continuously, both in the crust and crumb of the bread, at the end of the sixth day. The moisture content of the unwrapped loaf was a little higher than in the loaf wrapped in semiporous paper. There seems to be no practical change in the gluten content whether the bread is wrapped or un-

wrapped. The acidity content dropped off markedly in the case of the unwrapped loaf on the second day and continued without change until the sixth day. The acidity of the wrapped loaf remained practically constant from the first to the sixth day. The acidity of the waxed paper loaf decreased slightly on the third day, showed a slight increase in the crumb on the fourth day, followed by decline at the end of the experiment. In addition, experiments were made upon "straight dough rye bread," "straight dough Vienna health" and "sponge dough Bohemian rye," and experiments were made both with waxed or paraffin wrappers, and with a semiporous wrapper.

In conclusion, "it is clear that the wrapping of bread either in semiporous, waxed or paraffin paper retards the escape of moisture and tends to the preservation of the colloidal condition and physiochemical equilibrium noted by Katz, the destruction of which results in staleness. The belief that the moisture of the crumb is imparted to the crust, which thereby loses its crispness and becomes soft, is not borne out by the results of the author's experiments. Reference to the graphic charts show conclusively that in almost every case a loss of the moisture content of the crumb is accompanied by similar and almost exactly parallel loss of the moisture content of the crust. Observations to the contrary have perhaps been in error because of the usual custom of comparing the feel of the wrapped and unwrapped loaves on successive days, instead of comparing the texture of the crust of the wrapped loaf with the crust of the freshly baked loaf. The author's conclusions as to the loss of moisture, while somewhat surprising, appear to be fully justified by the results of the numerous experiments."

"It has long been held that bread on keeping develops an increasing acidity which is customarily expressed as lactic acid. The work of White above referred to disputes this belief. The work of the authors shows conclusively that lactic acid acidity does not develop either in the unwrapped or wrapped loaf, in the case of ordinary breads, within six days after baking."

Barnard and Bishop further state the use of semiporous and paraffin wrappers does not injure the quality of the loaf after the third day. Up to that time the keeping quality, as to the condition of crumb, flavor and color, is enhanced by the use of

wrappers. Unwrapped bread loses its freshness after the first day.

A very complete set of charts and curves has been prepared showing the results as herewith outlined.

Who Says "DON'T"?

A Case of Shock.

While the judge was giving his charge to the jury in the burglary case, one of the jurymen fainted. His lordship had just impressively said :

"Gentlemen of the jury, in arriving at the verdict you must take the testimony of the witnesses for the defense into consideration and give them full weight."

At the words "and give them full weight," the jurymen swooned away. He was a coal merchant.—*Exchange.*

Want List.

The library of the School of Medicine of the University of Kansas is particularly desirous to complete the files of the following journals:

American Journal of the Medical Sciences.

American Journal of Obstetrics.

American Gynecological and Obstetrical Journal.

Annals of Surgery, vols. 1-9, inclusive, years 1885-1895; vol. 13, 1891, misc. No. 6; vol. 17, 1893, misc. No. 5.

Archives of Internal Medicine, vols. 9 and 10, 1912.

Boston Medical and Surgical Journal—all volumes previous to 1905.

British Medical Journal.

Journal of the American Medical Association, vol. V, 1885; vol. VI, 1886; vol. VII, 1886; vol. XV, 1890; vol. XVII, 1891; vol. XVIII, 1892; vol. XXIII, 1894.

Journal of the Kansas State Medical Society, vol. I, 1901; vol. VIII, 1908, misc. Nos. 1 and 10.

Journal of Nervous and Mental Diseases.

Lancet (London).

Medical Record—all volumes previous to 1877.

New York Medical Journal—all volumes previous to 1890.

Therapeutic Gazette.

The full want list for any of the above will be sent upon application. Address, Librarian, School of Medicine. Rosedale, Kan.

The Point of View.

Trouble has a trick of coming
Butt end first;
Viewed approaching then you've seen it
At its worst,
Once surmounted straight it waxes
Ever small,
And it tapers till there's nothing
Left at all!
So, whene'er a difficulty
May impend,
Just remember you are facing
The butt end;
And that looking back upon it
Like as not
You will marvel at beholding
Just a dot!

DO YOU GET UP WITH A LAME BACK?

HAVE YOU RHEUMATISM, KIDNEY, LIVER OR BLADDER TROUBLE?

Pain or dull ache in the back is often evidence of kidney trouble. It is Nature's timely warning to show you that the track of health is not clear.

A SIMPLE REMEDY!

The Greatest and Least Advertised
"Medicine" on the Market.

TO-DAY!

STOP!

LOOK!

READ!

I T ' S F R E E !!

ABSOLUTELY FREE TO ALL!

This great medicine is a tasteless, inodorous liquid, H_2O , present in all organic tissues and in many other substances. It freezes at $32^{\circ} F.$ ($0^{\circ} C.$) and boils at $212^{\circ} F.$ ($100^{\circ} C.$) and is used as the standard of specific gravity and of specific heat. In other words, it is just plain, good, pure

W A T E R .

Up-to-Date Anatomy.

Mrs. Jones of Cactus Creek let a can opener slip last week and cut herself in the pantry.

A mischievous lad of Piketown threw a stone and struck Mr. Pike in the alley last Tuesday.

John Doe climbed on the roof of his house last week looking for a leak and fell striking himself on the back porch.

While Harold Green was escorting Miss Violet Wise from the church social last Sunday night a savage dog attacked them and bit Mr. Green several times on the public square.

Isaiah Trimmer of Running Creek was playing with a cat Friday when it scratched him on the veranda.

Mr. Fong while harnessing a broncho last Saturday was kicked just south of his corn patch.—*Pacific Medical Journal*.

Better Babies.

Formerly "Beauty Shows" were contests as to beauty of face and figure, very little if any weight being given to symmetrical physical and mental development. In the modern "Better Babies Contests," beauty of face is not considered except in so far as it is a part of intelligent expression and the index of perfect physical health.

While physical beauty is greatly desired by all parents, yet to the trained expert beauty lies deeper than color of skin, eyes and hair, or curved lines and symmetry of form. To such an one real beauty means perfect physical and mental development, and abounding health as expressed in a vigorous animal vitality. Discovering the *perfect* child, however, is a mere incident in these contests. While the parents of such a child may well have a feeling of pride in their offspring, the real beneficiaries are those children which do not meet the standards, but which may be made to do so by proper feeding, hygienic treatment and, if necessary, medical care under expert direction. It is, then, those that fall below the perfect standard who are the most benefited. Mothers and fathers should not be greatly disappointed if their children do not comply with the perfect standard, but rather should rejoice that deficiencies are pointed out early in order that intelligent direction may be inaugurated for the correction of such defects as may exist.

Such a "Better Babies' Contest" will be held at the Topeka State Fair, September 14-19, inclusive. The scoring and educational work will be under the direction of the School of Medicine of the University of Kansas and the Kansas State Board of Health. The detailed arrangements of the contest are under the control of the Mothers' Congress of Topeka which will guarantee it a most successful event.

Health Maxims Stolen and Revamped.

Spare the cure, kill the child.

Fresh air is the best life insurance agency.

Coddle yourself and you invite pneumonia.

Colds are easily "caught" but hard to lose.

Why be afraid of a little fresh air in winter?

"Dope" for colds is "dough" for the doctor.

Good health is priceless, yet it is without price.

Alcohol is a preservative, but not of the health.

The best defense against disease is the simple life.

Coddling, preparing for consumption and pneumonia.

Cheap candy—expensive funeral. Why take chances?

To neglect sore throat is to give the undertaker a job.

Colds are not caught from fresh air, but from stuffy air.

Sixteen to one. An ounce of prevention is equal to a pound of cure.

The more sunlight and fresh air in your house, the less need of a doctor.

Pure air makes pure blood, pure blood makes you disease-resisting.

Health is not put up in bottles, and can not be bought at the drug store.

Don't wait till to-morrow if the child has sore throat. Call the doctor at once.

What some thrifty (?) people keep from the doctor they give—to the undertaker.

Tea, coffee, and alcohol are stimulants—not foods. They lift one up to drop him hard.

Don't hibernate, ventilate. Plenty of fresh air will make the fires of life burn brightly.

The chest-protector man should throw no stones at the woman with peek-a-boo waist and lace hose.

Do not forget that the pores of the skin need to be open in winter as well as summer. Bathe often.

The purity and wholesomeness of Kansas meats slaughtered in the Kansas plants under Federal inspection is further guaranteed by the physical examination of all employees handling meats and meat food products. This examination has been inaugurated at the instance of the Kansas State Board of Health.

Moral: Buy Kansas meats—they are safe, sound and wholesome.

Two Kinds of Grocers.

"Jim Griggins the grocer's a seedy old jay; his whiskers are ragged, his hair all astray; his hands are begrimed when he weighs out our squash, his garments suggest that they're fit for the wash. And Griggins keeps saying, when people will list, 'The country is going to blitzen, I wist! My trade's growing duller—I can't make it thrive—I haven't one patron where once I had five!' But Grimkin, the grocer just over the way, is selling his prunes and his Young Hyson hay; he always seems busy, he takes in the scads, the roubles, the rhino, the dust of our dads. But Grimkin is always in natty array, his whiskers are combed in the Ham Lewis way; his bald spot is washed till it mirror-like gleams, his shirt has no butter or lard on its seams, his trousers are creased and don't bag at the knees, his shoes aren't spotted with Limburger cheese. And all through his store things are nifty and clean, from codfish and soap to shredded sardine. So people parade to his place by the score, while Griggins is grouching around in his store."—*Walt Mason*.

Live and Let Live.

The French government, wishing to obtain some vital statistics in regard to certain Turkish provinces, sent the usual blanks to the provincial governors with the request that they be answered. The following is the copy of the reply received from the Pasha of Damascus:

Q. "What is the death rate in your province?"

A. "It is the law of Allah that all should die, some die young and some die old."

Q. "What is the annual number of births?"

A. "God alone can say, I do not know, and hesitate to inquire."

Q. "Are the supplies of water sufficient and of good quality?"

A. "From the remotest period no one in Damascus has died of thirst."

Q. "Give general remarks as to the character of local sanitation."

A. "A man should not bother himself or his brother with questions that concern only God."—*Toronto Globe*.

Judging from some of the reports received by this department, it seems most likely that some of the "provincial governors of the Turkish provinces" have taken up their residence in the Lone Star State.—*Texas Bulletin*.

Mother of Five.

She mothered five!

Night after night she watched a little bed;
Night after night she cooled a fevered head;
Day after day she guarded little feet,
Taught little minds the dangers of the street;
Taught little lips to utter simple prayers,
Whispered of strength that some day would be theirs,
And trained them all to use it as they should—
She gave her babies to the nation's good.

She mothered five!

She gave her beauty; from her cheeks let fade
The rose's blushes, to her mother trade.
She saw the wrinkles furrowing her brow,
Yet smiling said, "My boy grows stronger now."
When pleasures called she turned away and said:
"I dare not leave my babies to be fed
By stranger's hands; besides, they are so small
I must be near to answer when they call."

She mothered five!

Night after night they sat about her knee
And heard her tell of what some day would be.
From her they learned that in the world outside
Are cruelty and vice and selfishness and pride.
From her they learned the wrongs they ought to shun,
What things to love, what work must still be done.
She led them through the labyrinth of youth,
And brought five men and women up to Truth.

She mothered five!

Her name may be unknown save to the few.
Of her the outside world but little knew.
But somewhere five are treading Virtue's ways,
Serving the world and brightening its days.
Somewhere are five, who, tempted, stand upright,
Clinging to honor, keeping her memory bright.
Somewhere this mother toils and is alive,
No more as one, but in the breasts of five.

—Edgar A. Guest.

Figures of Speech.

The waiters who infest the cheap eating houses of New York, and bawl their orders in a stentorian voice to the cook in the kitchen, vary the monotony of their own existence, and alleviate the conditions under which the customers must eat, by means of an ingenious and amusing gift of paraphrase. Our exchanges have been collecting some of these restaurant cries:

"Mutton broth in a hurry," says a customer. "Baa-baa in the rain! Make him run!" shouts the waiter.

"Beefsteak and onions," said a customer. "John Bull! Make him a Guinea!" shouts the waiter.

"Where's my baked potato?" asks a customer. "Mrs. Murphy in a seal-skin coat!" shouts the waiter.

"Two fried eggs, don't fry 'em too hard," says a customer. "Adam and Eve in the garden! Leave their eyes open!" shouts the waiter.

"Poached eggs on toast," says a customer. "Bride and groom on a raft!" shouts the waiter.

"Chicken croquettes," says a customer. "Fowl ball!" shouts the waiter.

"Hash," says a customer. "Gentleman wants to take a chance!" shouts the waiter. "I'll have hash, too," says the next customer. "Another sport!" shouts the waiter.

"Glass of milk," says a customer. "Let it rain!" shouts the waiter.

"Frankfurters and sauerkraut, good and hot," says a customer. "Fido, Shep and a bale of hay," shouts the waiter, "and let 'em sizzle!"

THE CAUSE OF THE BABIES

TO NATHAN STRAUS.

By LILLIAN LAUFERTY.

Some war in the cohorts of Mammon to-day,
Some gird them to die for a sect or a creed—
Promotion they win in the thick of the gray
Or fall—and the guns muffle low for their deed.
And the grim world whirls on with no pause to relent,
While the new war's just started—the War to PREVENT.

We have murmured of peace as the dusk gathered in,
Till the day brought us new sentry duty to fill.
We have fought in the struggle to conquer man's sin
And to give sinners faith in the power of their will.
So the grim fight goes on and the world's strength is spent
On the tragedy once there was hope to prevent.

But what of the children, wee dots on the road
That gather and mass on the footpaths we go,
With weakness and sickness a curse and a goad
To drive them to fight in the trenches below?
Shall never the curse of the poison be spent
That their young mouths drink in—save we pause to prevent?

Come! War in the cohorts of science to-day
From basement to alley—from alley to street—
From city to village, disease hold at bay,
Lest Death scourge the babies in bitter retreat.
For never man's riches more nobly were lent
Than in saving the children—GOD'S WAR TO PREVENT.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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VOL. X

CONTENTS.

	<i>page</i>
Morbidity Statistics	234
Report of Division of Food and Drugs	241
Hutchinson's All-season Fly Crusade	236
Drug Analyses No. L	244
Notice	246
Scales Weights and Measures Examined	246
Cases Filed with County Attorneys	246
Delinquent Prosecutions	247

The air is fine; come on out!

Man, not God, fixes the death rate.

"Better Babies" and more of them!

It costs less to keep well than to get well.

The daily habit of life should be based on moderation.

It is a higher conception of the opportunity of the pulpit to preach prevention than to preach funeral sermons.

As cool weather approaches, increase your daily exercise. You will need a vital reserve for the winter months.

Are you in favor of a division of child hygiene being added to the activities of the State Board of Health? If so, interview your candidates for the legislature.

Physicians and midwives who did not receive a free package of silver nitrate for the prevention of ophthalmia neonatorum from the State Department of Health should write for same.

The whole world is aghast at the horrors of the European war with its murderous slaughter, but how much less horrifying is the loss of life from preventable sickness and accidents occurring in America?

MORBIDITY STATISTICS — Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Rabies.....	Measles.....	Whooping cough....	Meningitis.....	Pellagra.....	Poliomyelitis.....	Mumps.....	Chicken pox.....	Other communicable diseases.....
Logan*													000000
Lyon.....	2	0	1	0	0	0	0	0	0	0	0	0	000000
Marion.....	1	2	0	0	0	0	0	0	0	0	0	0	000000
Marshall.....	3	0	0	0	0	0	0	0	0	0	0	0	000000
McPherson.....	4	0	0	0	0	0	0	0	0	0	0	0	000000
Meade.....	1	0	0	0	0	0	0	0	0	0	0	0	000000
Miami.....	3	0	0	0	1	0	0	0	0	0	0	0	000000
Mitchell*													000000
Montgomery, except Coffeyville.....	3	3	1	0	0	1	0	0	0	1	0	0	000000
Morris.....	2	0	0	0	0	0	0	0	0	0	0	0	000000
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0	000000
Nemaha.....	0	0	0	0	0	0	0	0	0	0	0	0	000000
Neosho.....	7	0	0	1	0	0	0	0	0	0	0	0	000000
Ness*													000000
Norton.....	2	0	0	0	0	0	0	0	0	0	0	0	000000
Osage.....	0	0	0	0	0	3	0	0	0	0	0	1	000000
Osborne.....	1	0	0	0	0	0	0	0	0	0	0	0	000000
Ottawa.....	3	0	1	0	0	1	0	0	0	0	0	0	000000
Pawnee.....	12	0	1	0	0	0	1	0	0	0	0	0	000000
Phillips.....	0	1	1	0	0	0	0	0	0	0	0	0	000000
Pottawatomie.....	0	0	0	0	0	0	0	0	0	0	0	0	000000
Pratt*													000000
Rawlins.....	1	0	0	0	0	0	0	0	0	0	0	0	000000
Reno,* except Hutchinson.....	6	0	0	0	0	0	0	0	0	0	0	0	000000
Republic.....	4	0	0	0	0	0	2	0	0	0	0	0	000000
Rice.....	2	0	0	0	0	0	0	0	0	0	0	0	000000
Riley.....	4	0	0	0	0	0	2	0	0	0	1	0	000000
Rooks.....	0	0	0	0	0	0	0	0	0	0	0	0	000000
Rush.....	2	0	0	0	0	1	0	0	0	0	0	0	000000
Russell*													000000
Saline*													000000
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0	000000
Sedgewick, except Wichita.....	5	3	0	0	0	0	5	0	0	0	0	0	000000
Seward.....	16	2	1	0	0	0	4	0	0	0	2	0	000000
Shawnee, except Topeka.....	1	0	0	0	0	0	0	0	0	0	0	1	000000
Shawnee, except Topeka.....	2	2	0	0	0	0	0	0	0	0	0	0	000000
Sheridan*	3	1	0	0	0	0	4	0	0	0	0	0	000000
Sherman.....													000000
Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	000000
Stafford*	0	0	0	0	0	0	0	1	0	0	0	0	000000
Stanton*													000000
Stevens.....	2	0	0	0	0	0	0	0	0	0	0	0	000000
Sumner.....	10	0	0	0	0	2	1	0	0	0	0	0	000000
Thomas.....	0	1	0	0	0	0	0	0	0	0	0	0	000000
Trego*													000000
Wabunsee.....	2	0	0	0	0	0	0	0	0	0	0	0	000000
Wallace.....	0	0	0	0	0	0	0	0	0	0	0	0	000000
Washington.....	2	0	0	0	0	0	0	0	0	0	0	0	000000
Wichita*													000000
Wilson.....	5	0	0	0	0	0	0	0	0	0	0	0	000000
Woodson.....	2	0	0	1	0	0	0	0	0	0	0	0	000000
Wyandotte, except Kansas City.....	2	1	2	0	0	0	0	0	0	0	0	1	000000
Kansas City.....	5	3	1	6	0	1	2	0	0	0	0	0	000000

* No report.

Hutchinson's All-Summer Fly Crusade.

By LLOYD A. CLARY, M. D., President Hutchinson Board of Health.

AN EXAMPLE FOR OTHER CITIES TO EMULATE.

[The following account of "Hutchinson's all-summer fly crusade," by the active president of the local board of health, is an example that every city in Kansas would do well to emulate. Health officers are urged to file this interesting and effective plan for use in 1915 in every city in Kansas. We take off our hat to progressive Hutchinson.—EDITOR.]

The board of health of Hutchinson has carried on a campaign against that great pest, the common house fly, this summer that is rather unique in some ways. Dr. S. J. Crumbine, secretary of the State Board of Health of Kansas, has asked the writer to prepare an article giving a complete resume of this work as done by Hutchinson's board of health. I will attempt to set forth as briefly as possible what we have done and how we did it.

The first thing to do was to work out a plan for killing flies that would prove effective. Other cities had carried on fly-swatting campaigns, but so far as we could find out their efforts were spasmodic. Our plan, as it was developed after some days' work, was to carry on what we chose to term an All-summer Fly Crusade.

It was late in June, and there were ten Mondays from that time, beginning June 29, until August 31. As a basis, we obtained an appropriation of \$30 from the health department of the city government, to be divided into prizes for the boys and girls bringing dead flies to the city clerk's office at 9 A. M. each Monday morning. This money was to be given as a first prize of \$2 and a second prize of \$1 each Monday until the ten weeks had passed. Thus \$3 cash was given by the city each week. Knowing that this would give only two children a chance to win prizes each week, and that a crusade against flies would benefit the merchant as much as it would any one else in town, the Retail Merchants' Bureau of the Commercial Club was appealed to to supplement the board of health prizes with merchandise prizes each week. The chairman and secretary of this bureau entered whole-souled into the plan, and the prizes they obtained from the merchants aided materially in the successful carrying out, during the whole ten weeks, of the crusade. In May Dr. S. J. Crumbine had addressed the Commercial Club at their mid-month meeting, which was devoted to the

subject of public health. This meeting, and especially Doctor Crumbine's talk, did much to interest the prominent business men of the city in the work of the board of health, and particularly in the extermination of the fly.

The first Monday morning was awaited with interest. No one knew whether any flies would be brought to Convention Hall or not. The whole thing might prove a fizzle. When 9 o'clock on June 29 came just fourteen boys and girls showed up with flies. That was not a large number, and we might have become discouraged about continuing during the summer, as originally planned, had these fourteen boys and girls not brought with them such a large number of dead flies. They brought nearly sixteen pounds of flies—almost enough to fill two bushel baskets. It was an eye-opener. The \$3 was handed out gladly, and a pair of shoes in addition. We felt encouraged. The campaign had been made public only a few days before.

Just to start the thing off in good shape, the Tuesday following the first Monday of the campaign each child who brought a cupful of flies was admitted free to Hutchinson's summer amusement resort, Riverside Park, and the children were guests for the afternoon of the management of this park. A fine program of home-talent entertainers, who gave numbers especially pleasing to the children, was prepared, and there was a large attendance of boys and girls, each bringing a big bunch of dead flies. A talk was given these children about the danger of the fly, and how each fly should be killed, so it could not track dirt over food or carry disease. Here again prizes from the merchants were given out. One boy brought 3 pounds and 11 ounces, while the total turned in by nearly 100 children was 14 pounds and 2 ounces. This was a lot of flies to be gathered together in a day, and it showed the interest was extending.

After these two days had proven that the plan was feasible, it was decided to carry it on all summer and to offer prizes each Monday morning. This was the plan as followed out through the whole of July and August. Every Monday saw a large crowd of boys and girls lined up on the steps of Convention Hall waiting the hour of nine, when the doors would be opened and they would file in to a long table, where the custodian of Convention Hall presided over a pair of grocer's scales and where sat the city accountant with paper and pencil to check up results. The weighing seemed the only practical

way to settle who had the most flies, and there were times when the amount one child brought would have to be divided into more than one lot, because the scales would not weigh so large a bulk. A complete record of the amount of flies turned in by each child was kept and the boy who brought the highest average amount of dead flies during the whole ten weeks was offered a year's membership in the Y. M. C. A. as a reward. The competition for this prize finally centered in two boys, and, just to make him feel good, the loser was given a six months' membership in the Y. M. C. A. after it was all over and he had failed to land the big prize. It might be of interest to know that the total value of the prizes, both cash and merchandise, won by Stewart Andrews, the boy who had the highest general average, was \$24.25, while the amount won by his nearest competitor was \$19.

It was an interesting sight each Monday to watch the boys and girls swarming around the building with their flies. They came bringing them in paper sacks, flour sacks, glass jars, tin cans, boxes, and in almost every conceivable sort of receptacle. And not all of them were children from the poorer classes by any means. It was not at all uncommon to see some one drive up with a fine big touring car bringing one or two children with their quota of flies. After being weighed the flies were burned in a furnace.

Beginning with the second Monday, each child who brought 100 or more dead flies was given a ticket to a moving-picture show. This helped to stimulate interest and was a reward for those who failed to get the big prizes. These tickets were freely furnished by the moving-picture men. Fred Savage, owner of two of the best houses in the city, sent over a number of large rolls of tickets, and simply said: "Hop to it. Use all you want." C. B. Yost, another picture-show man, was likewise free in his offer of tickets to his show. After a couple of weeks we raised the number of tickets given to two for each child.

The idea at the bottom of the whole thing was not so much the actual reduction of the number of flies in town—though there is no one connected with the enterprise who does not feel sure that the decrease was really enormous—but the idea was that the campaign would be of immense value from an educational standpoint. As mentioned above, a talk on the nastiness of flies was made to the crowd of children at the

park. This was made by C. D. Forby, chairman of the Retail Merchants' Bureau of the Commercial Club, and it was a dandy good talk. Then "Swat the Fly" leaflets, sent by the State Board of Health for the purpose, were handed out at different times to the children. Also, the moving-picture men voluntarily made slides calling attention to the filthiness and disease-producing proclivities of flies, and these they run on the days the children brought their tickets in.

During the hottest part of the summer the Kress 5- and 10-cent store distributed literature all over town calling attention to the danger of flies and advertising their method of displaying candy. This literature was especially good, and they were asked to hand some of it out to the children at one of the Monday morning sessions. Of course, a backyard and alley clean-up was undertaken along with the fly crusade, and effort made to limit the production of flies.

With all it proved a very effective campaign, and quite a number of merchants have been heard to say that there were fewer flies than usual this summer after the crusade was well under way. One doctor told me toward the end of the season that his wife had offered her two little girls 5 cents one day if they would kill six flies in the house, and he said they failed to earn the money because they could not find the flies.

The merchandise prizes are given below. These prizes were offered by the retailers, wholesalers and manufacturers of Hutchinson, and the name of the donor was given in the newspapers both before the Monday on which his prize was given and after the award had been made. Thus the good cause was helped along and the merchant obtained some publicity in return for his prize offer. W. R. Tedrick, secretary of the Retail Merchants' Bureau, obtained the prizes for us each week.

Before closing I must mention the *Hutchinson News* and the *Hutchinson Gazette*. Both of these newspapers devoted much space to the fly crusade, and the success of the scheme is very largely due to the publicity given it by them. In the start we realized that we owed a lot to the newspapers in the carrying on of the campaign, and instead of advertising by handbills the board of health carried a display ad. in each of the papers. This ad. appears below, greatly reduced in size.

BOYS!**GIRLS!*****Kill the Flies*****WE WILL PAY YOU TO DO IT—BRING THEM TO US.**

Every Monday morning during July and August, at the east porch of Convention Hall, at 9 o'clock, the Board of Health of Hutchinson will pay for

DEAD FLIES

We will pay Two Silver Dollars to the boy or girl bringing the most Dead Flies, and One Silver Dollar to the boy or girl bringing the next largest quantity of Dead Flies. In addition to these prizes there will be special prizes each Monday given by different merchants of Hutchinson.

Boys and girls, these prizes are worth working for. The boy who brings the highest average number of Dead Flies during these two months gets one year's membership to the Y. M. C. A. free.

Get busy, boys and girls, earn a prize; and anyway—

**Flies are Filthy—Flies Cause Sickness—Kill Them
BOARD OF HEALTH.**

After a few weeks we decided to encourage the actual killing of flies with swatters, so during the latter part of the campaign we divided our prizes, giving a part of them to children who brought in flies and made the declaration that they had been actually swatted. Of course the larger number of flies were caught in traps. Following is the list of merchants' prizes given during the summer for dead flies outside of the Board of Health prizes of \$2 and \$1 cash each week: \$2.50 pair of shoes; baseball and bat; \$2 Brownie camera; girl's dress; pennant; \$3 kodak; \$1 worth of soda-fountain tickets; \$2.50 pair girl's slippers; half dozen pair hose for girl; \$2 pair knickerbocker pants; \$1 worth soda-fountain tickets; \$2 Brownie camera; \$1 pocket knife; \$4.50 sewing rocker; case of Coco-Cola; \$2 worth of soda-fountain tickets; \$2 pair of slippers; pair of silk hose; \$1.50 pair knickerbocker pants; \$2.50 cash; football; pound of chocolates; \$4.50 sewing rocker; \$2.25 sewing rocker; \$1 camera; \$1.50 gold belt pin; \$1 worth bread tickets; \$2.50 pair shoes; \$2 cash; \$2 worth of merchandise; \$2 worth soda-fountain tickets; \$2 Ingersoll watch; case of pop; \$1 worth of groceries; \$2.50 gold locket; \$1.50 catching glove; \$1 music roll; 50-cent pocket knife; 50 cents' worth of soda-fountain tickets; \$1 worth blank books; gallon

ice cream; game; \$2.50 express wagon; 2 pounds candy; \$1 cash; 2 pounds chocolates.

Here is a summary of results obtained: We found that the home-swatting of flies was stimulated to a great extent by the offer of moving-picture tickets, and this also interested more children than if we had not provided something for each child. The biggest day's kill was 25 pounds. One boy brought his flies in a 100-pound sugar sack one day, and there were six pounds of flies. Even the ministers noticed the campaign, and a number of them made talks on the subject from the pulpit. The grand total of flies killed was 3586 ounces, or 224 $\frac{1}{8}$ pounds. This was a little more than 37 bushels of flies. We figured, by dividing one ounce of flies and counting them, that there were 2000 flies to the ounce. On this basis, 7,172,000 flies were turned in during the ten weeks. Considering the billions of flies that might easily have descended from these had they been allowed to live, we think the crusade was eminently worth while.

Report of Division of Food and Drugs, Kansas State Board of Health, Topeka, for August, 1914.

LEON A. CONGDON, B. S., Chief of Division.

Traveling Food Inspectors: HARRY BELL, A. E. ICE and A. G. PIKE.

Traveling Drug Inspectors: D. F. DEEM and F. E. ROWLAND.

Directors of the University Laboratories: E. H. S. BAILEY, Ph. D.; L. E. SAYRE, M. S.

Director of the Agricultural College Laboratory: J. T. WILLARD, M. S.

During the month of August, 1914, our traveling inspectors have visited 144 cities and towns in various parts of the state. Inspections were made in the following places: Atchison, Amy, Abilene, Augusta, Andover, Albert, Arnold, Alexander, Alamota, Boyd, Buffalo, Belpre, Bordarc, Bison, Burdett, Beaumont, Belvue, Bazine, Besler, Brownell, Benedict, Chanutte, Coffeyville, Cimarron, Carleton, Climax, Claflin, Chetopa, Dodge City, Deerfield, Douglass, Dighton, Emporia, Erie, Fall River, Fredonia, Fort Riley, Falun, Frederick, Frizell, Friend, Galesburg, Great Bend, Garden City, Gypsum, Gordon, Grigsby, Hill City, Hoxie, Hoisington, Hepler, Hays, Hiattville, Healy, Humboldt, Haverhill, Hanston, Hodgeman, Heizer, Ingalls, Iola, Independence, Jetmore, Junction City, Kipp, Kinsley, Kansas City, Kiro, Keighley, Luray, Lucas, Larned, Lewis, Langley, Leoti, La Harpe, La Crosse, Leon, Leon R. F. D. 3, Laird, Lakin, Morland, Marienthal, Middletown, Manhattan,

Mound Valley, Manning, McCracken, Macksville, Modoc, New Albany, Natoma, Nekoma, Ness City, Newton, Osage City, Otis, Olmitz, Oswego, Palco, Plainville, Pendennis, Parsons, Piedmont, Petrolia, Rozel, Rest, Ridge, Roper, Rose, Russell, Russell Springs, Ransom, Rock Center, Rossville, Rush Center, Sanford, Shaw, Shallow City, St. George, Sylvan Grove, Salina, South Mound, St. Marys, Spearville, St. Paul, Scott City, Shields, Smolan, Severy, Silver Lake, Shaffer, St. John, Solomon, Syracuse, Tinken, Topeka, Urbana, Utica, Vilas, Wamego, Waldo, Wa Keeney, and Walnut.

Our inspectors have reported on 848 food and drug establishments for the month of August. The following table will give an idea as to the character of the places visited, the number of the places in good, good to fair, fair, or poor sanitation. Of the total number of inspections made by our inspectors 44.20 per cent were classed by them as "fair," 42.12 per cent as "good," 10.86 per cent as "good to fair," and 2.82 per cent as "poor." There is a slight improvement over the "fair" places, 5.06 per cent improvement over the "good" places, nearly 5 per cent improvement in the "good to fair" places, and a slight improvement in the number of "poor" places over the inspections made last month.

SUMMARY OF SANITARY INSPECTION—AUGUST, 1914.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary condition.			
		Good.	Good to fair.	Fair.	Poor.
Groceries.....	346	143	52	142	9
Meat markets.....	64	24	3	36	1
Grocery and meat market.....	29	14	1	13	1
Bakeries.....	64	20	4	39	1
Confectionery and soft drinks.....	7	4	.....	3	.....
Confectionery and ice-cream parlors.....	28	21	4	3	.....
Soft-drink places at restaurants.....	3	.....	.....	3	.....
Ice-cream parlors.....	2	1	.....	1	.....
Restaurant food displays.....	8	.....	2	2	4
Bottling works.....	18	11	1	4	2
Soft-drink places at pool rooms, cigar stands and other places.....	41	14	5	22	.....
Feed and corn-meal mills.....	7	5	.....	2	.....
Flour mills.....	13	11	2	.....	.....
Tea and coffee store.....	1	1	.....	.....	.....
Grocery and bakery.....	3	1	.....	2	.....
Meat market and bakery.....	1	.....	1	.....	.....
Slaughterhouses.....	19	3	1	14	1
Creamery.....	2	.....	.....	1	1
Ice-cream factory.....	13	7	.....	4	2
Vinegar factory.....	2	.....	.....	2	.....
Cheese factory.....	1	.....	.....	1	.....
Poultry and storage house.....	1	.....	.....	1	.....
Wholesale grocery.....	2	1	.....	1	.....
Wholesale candy.....	1	1	.....	.....	.....
Patent medicine stocks.....	18	14	.....	4	.....
Drug stores.....	124	48	13	62	1
Doctor's dispensary stock.....	1	1	.....	.....	.....
Miscellaneous inspections, not classed.....	29	.....	.....	.....	.....
Totals.....	848	345	89	362	23

PER CENT OF SANITATION.

(Exclusive of those not classed.)

44.20 per cent fair.

42.12 per cent good.

10.86 per cent good to fair.

2.82 per cent poor.

The following table shows the results of analyses of food reported to this division during the month of August, 1914:

FOOD ANALYSES—AUGUST, 1914.

KIND OF SAMPLE.	Number.	Passed.	Misbranded.	Adulterated.
Celery relish.....	1	1		
Catsup.....	1		1	
Cider.....	1	1		
Extract (lemon).....	2	1	1	
Extract (imitation lemon).....	1			1
Extract (vanilla).....	1	1		
Temperance beers:				
Brand, "Ideal Health".....	2	1	1	
Brand, "Jingo".....	1		1	
Brand, "Maltonic".....	1		1	
Brand, "Silver Top".....	1		1	
Pop syrups.....	7	6		1
Pops:				
Blackberry flavor.....	1	1		
Grape flavor.....	1	1		
Lemon flavor.....	2	1		1
Orange flavor.....	1	1		
Raspberry flavor.....	1	1		
Root beer flavor.....	1	1		
King Kola flavor.....	1	1		
Strawberry flavor.....	2	2		
Totals.....	29	20	6	3

The sample of catsup which was declared misbranded was high in the amount of benzoate of soda allowed in such products and as stated on the label. This sample was the Silver Leaf Brand, Otto Kuehne Preserving Company, Topeka, Kan.

The extract of lemon declared misbranded was manufactured by the G. W. Chase Mercantile Company, St. Joseph, Mo. This sample was deficient in lemon oil as required by our standard, and also low in alcohol as declared on the label.

The imitation lemon extract declared adulterated contained added coloring matter, which is prohibited by Kansas standards.

The so-called "temperance beers" were misbranded in that they contained alcohol, which is not consistent with the labels.

One pop syrup was declared adulterated in that it contained saponin, a poisonous glucoside. Likewise, the lemon pop was declared adulterated. This lemon pop was manufactured by Leo Thoma, Kansas City, Mo.

No new samples of drugs were reported on by the drug laboratory during the month of August because of our drug chemists having their vacations. Nevertheless, we have re-

ceived drug analyses L from the drug laboratory, giving in detail analyses of drugs submitted to this laboratory by our inspectors since the last drug analyses reported in the June, 1914, bulletin of this department. The following is drug analyses No. L, which brings the drug samples reported up to September 1, 1914.

DRUG ANALYSES No. L.

Under the direction of L. E. SAYRE.
Chief drug analyst, L. D. HAVENHILL.
Drug analyst, G. N. WATSON.
Microscopist, O. M. STERLING.

The present report of the drug laboratory begins with a better showing for essence of pepsin. Only one of the samples shows an exceedingly low digestive strength. This preparation is so liable to deterioration that it is seldom possible to find one which will not leave a residue of undigested albumen of more than 1 cc. An essence of pepsin which would have a residue as low as 1 cc. should be considered an ideal one so far as digestive power is concerned.

The "pepsin chewing gums" (6383-6420 and 6412) should not be entitled to the use of the name pepsin. It is generally considered that a preparation using a medicinal agent adjectively should have sufficient of that article present to make it physiologically recognizable. If such a basis for recognition were applied it would seem that these pepsin chewing gums were not entitled to the use of the word pepsin—in other words, may be considered misbranded.

The same remarks as regards the amount of cod-liver oil apply to cod-liver oil cough candy (6425).

Cream of Tartar. The percentage of potassium bitartrate present in all of the samples examined is very satisfactory, but the lead per cent (15 to 20 parts per million) is not quite so acceptable. In the commercial cream of tartar the proportion of lead need not exceed one part in 200,000 (British Pharmaceutical Codex).

Nitroglycerin tablets examined seem to show deterioration. How rapid this deterioration is will be a subject for future investigation. If it is found that they have a time limit beyond which they do not hold their original strength, the date of manufacture should be stated on the label.

Tablets of Nitroglycerin Co. (6432) could not claim recognition as such, even though shielded by the word "com-

pound.” If this appendage is employed, as in 6430, 6386, etc., the nitroglycerin ingredient should be the characteristic and pronounced ingredient. What is the standard for these compound tablets? The application of the food and drugs law demands some sort of standard.

No. 5764 naturally raises the question whether cottonseed oil may be considered a legal imitation of bear’s oil. The same question as regards legality applies to 5907, imitation peper-mint.

Cascarilla Tonic (6387). As the test for emodin is positive, it would seem that there was a misapplication of the word “Cascarilla,” as this contains no emodin. If an emodin-bearing drug is present it should be stated as the principal ingredient, rather than cascarilla, since the former are more active drugs, the latter being simply an aromatic bitter.

No. 6434, prepared coffee, was a sample sent to the State Board of Health by a physician who suspected the coffee had been poisoned with criminal intent.

No. 6074 suggests the question, Can quinidine be considered as “tasteless quinine”? Commercially the two alkaloids are of equal value.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	NAME.	City.	Gm. camphor per 100 cc.	Per cent added water.
6343	20866	A. C. Nichols.....	Lake View.....	9.70	13.5
6382	20891	Henry Luebbe.....	Horton.....	7.90	.....
6392	20902	R. E. Radall.....	Throop.....	9.30	.....
6422	20931	C. C. Shaler.....	Lawrence.....	9.40	.....
6423A	20930	†T. Poehler Mctl. Co.....	Lawrence.....	9.82	6.4
6423B	20930	†T. Poehler Mctl. Co.....	Lawrence.....	9.86	6.7

*Spirit of camphor should contain 10 gms. of camphor in 100 cc. and no added water.
†Manufacturers, Thompson & Taylor Spice Company, Chicago, Ill.

CREAM OF TARTAR.*

Lab. No.	Insp. No.	NAME.	City.	Per cent KHC ₄ H ₄ O ₆	Solubility.	Parts lead per million.
6272	90416	McCord-Kistler Co.....	Topeka.....	99.7	Complete.	15
6283	90439	Davis Merc. Co.....	Topeka.....	99.8	Complete.	15
6347	20872	Fleming Pharmacy.....	Manhattan.....	99.8	Complete.	20
6349	20874	N. E. Engel.....	Manhattan.....	99.7	Complete.	20
6351	20876	A. E. Topping.....	Overbrook.....	99.8	Complete.	15
6353	20878	W. F. Havekott.....	Berryton.....	99.7	Complete.	20
6357	20884	L. D. Sargent.....	Junction City...	99.8	Complete.	15

*Cream of tartar should contain not less than 99 per cent pure potassium bitartrate and should otherwise conform to U. S. P. requirements.

SWEET SPIRIT OF NITRE.*

Lab. No.	Insp. No.	NAME.	City.	Per cent ethyl nitrite.
6346	20870	Emmett Drug Company.....	Emmett.....	2.50
6354	20880	Flemming & Gebhart.....	Vassar.....	3.19
6393	20903	Carlson Bros.....	Calderhead.....	3.33

*Sweet spirit of nitre should contain at least 4 per cent of ethyl nitrite.

GROUND COFFEE.*

Lab. No.	Insp. No.	NAME.	City.	Per cent moist-ure.	Per cent sol. solids.	Per cent ash.	Per cent fat.	Per cent caffein.	Per cent sol. ash.	Per cent. insol. ash.
6331				10.06	20.8	4.69	10.76	1.26	76.5	23.5
6372	90572	O. L. Cabness.....	Paola..	9.75	20.67	4.43	10.30	1.02	77.9	22.1
6378	100002	F. W. Tannabill....	Vernon.	9.61	20.37	4.96	9.66	.900	75.2	24.8

*Coffee should show not less than 3 per cent ash and not less than 10 per cent fat.

(Continued in October Bulletin.)

Notice.

In Bulletin No. 5, May, 1914, page 161, a sample of "Marmo Apple Butter," manufactured by Corn Products Refining Company, New York, was declared "illegal." This Department will withdraw further objections to its sale in this state pending the final adjustment of our difference, or until the courts have decided the matter.

SCALES, WEIGHTS AND MEASURES EXAMINED DURING THE MONTH OF AUGUST, 1914, BY THE TRAVELING INSPECTORS.

During the month of August, 1914, our traveling inspectors have examined 751 scales, 1620 weights and 122 measures. They have condemned 5 scales and 11 weights.

DETAILED REPORT ON CASES FILED WITH COUNTY ATTORNEYS.

During the month of August, 1914, there were three terminations of cases which were filed since May 1, 1914:

NAME.	Place.	Case.	Date.	Termination.
Don A. Weltmer.....	Great Bend.....	Insanitary condition of bot- tling works.	8-20-14	\$3 fine and costs. D
W. A. O. White..	Holliday.....	Selling illegal spirits of cam- phor.	11-11-13	Out of business and gone to parts unknown. R
A. C. Nichols.....	Lake View.....	Adulterated spirits of cam- phor.	3-30-14	Held guarantee from manufacturer. R

The following delinquent prosecutions terminated during the months of July and August, 1914. These cover a period from August, 1911, to March, 1914, as referred to county attorney.

DELINQUENT PROSECUTIONS OF CASES FILED WITH COUNTY ATTORNEYS TERMINATING DURING JULY AND AUGUST, 1914.

NAME.	Place.	Case.	Date referred.	Report from county attorney.
F. J. Pietrysk	Kansas City..	Amount of opium not declared on "Sweet Rest for Children."	10-28-13	Court dismissed case over protest of assistant county attorney. R
F. J. Pietrysk	Kansas City..	Illegal spirits of camphor.	10-28-13	Court dismissed case over protest of assistant county attorney. R
J. F. Glick Mercantile Co.	Pittsburg	Substandard vinegar.	2-26-14	\$5 fine and \$6.75 costs. P
Halley Mosher Mercantile Co. . . .	Thayer	Substandard vinegar.	9-27-12	No action taken by county attorney. I
George W. Gelwix	Thayer	Substandard vinegar.	9-27-12	No action taken by county attorney. I
Smith & Day	Shaw	Cider vinegar found not product of pure apple juice.	9-27-12	No action taken by county attorney. I
Butler & James	Chanute	Sale of adulterated and misbranded lard.	4-10-12	No action taken by county attorney. I
Buell Cream and Candy Co.	Salina	Selling substandard ice cream.	8-24-11	No action taken by county attorney. D
Markham Drug Company	Scammon	Adulterated spirits of camphor.	11-20-12	No action taken by county attorney. D
Star Drug Company	Fort Scott	Adulterated tincture iodine.	11-20-12	Company out of business. D
W. H. Brooks	Salina	Violation of weights and measures law; short weight sale of potatoes, apples, etc.	12-23-12	Warrant was issued but defendant not found. B
W. E. Fowler	Brookville	Adulterated sweet spirits of niter.	11-20-12	No action taken by county attorney. R
W. H. Cather & Son	Fowler	Sale of adulterated lard.	12-14-12	No action taken by county attorney. I
J. D. Dearborn	Barnes	Sale of misbranded and adulterated lard.	4-10-12	No action taken by county attorney. I
M. F. Flaherty & Son	Hanover	Sale of adulterated canned corn.	10-14-13	Had guarantee from packer. P
W. D. Wooley	Kanorado	Sale of adulterated and misbranded vinegar.	5-9-12	Court dismissed case for want of prosecution. P
Harrison & Nelson	Concordia	Sale of adulterated and misbranded powdered sugar.	4-11-12	No action taken by county attorney. I
Swartz-Lynn Mercantile Co.	Miltonvale	Selling sweet pickles containing salts of aluminum.	1-19-12	No action taken by county attorney. I
Swartz-Lynn Mercantile Co.	Miltonvale	Selling sweet pickles containing salts of aluminum.	1-19-12	No action taken by county attorney. I
I. S. Rath	Scott City	Selling adulterated and misbranded vinegar.	2-14-12	Investigated by county attorney, who produced affidavits from retailer and wholesaler that vinegar was not adulterated while in their possession. Retailer produced guarantee from maker. P
Churchill Hardware Company	Oakley	Adulterated boiled linseed oil.	9-13-13	Plea of guilty was entered by defendant. Fine and costs paid. R
Adolph Nelson	Scandia	Failure to label bread.	7-29-12	Labels were being printed at the time, and after procuring them, labeled as provided by law. P

A PETITION HUMANITY MUST HEED

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

Entered as second-class matter, March 5, 1906, at the post office at Topeka, Kan.,
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No. 10

OCTOBER 1914

VOL. X.

CONTENTS.

Morbidity Statistics for September, 1914, page 248.

Drug Analyses No. L page 250.

Report of the Division of Food and Drugs, page 254.

Public Health Lectures, page 259.

Success, page 261.

Live the outdoor life!

Is your baby registered?

"Ain't it fierce?"—the city dump.

A light overcoat is better than a heavy cold.

Cut out the hibernating habit during cold weather.

The BULLETIN is used as a textbook by many schools in this and other states.

A false advertising law is urgently needed as a supplement to the food and drugs law.

There are fifty-one sewage purification plants in Kansas. Kansas is trying to keep clean.

The deaths of school children from preventable diseases cry aloud for the physical supervision of schools.

Notwithstanding the popular opinion to the contrary, measles and whooping cough are "grave" diseases.

The "Health Bulletin" of the City of Hutchinson is the latest addition to the health literature of the state. Hats off to Dr. W. F. Schoor, the Editor and City Health Officer.

MORBIDITY STATISTICS — Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Measles.....	Smallpox.....	Whooping cough.....	Rabies.....	Meningitis.....	Pellagra.....	Polioomyelitis.....	Mumps.....	Chicken pox.....	Other communicable diseases.....
Logan.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Marion.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Marshall.....	0	0	0	0	0	0	0	0	0	0	0	0	0
McPherson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Maede.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Miami.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitchell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Morris.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Necaho.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Ness.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Norton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Osage.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Osborne.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Ottawa.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Pawnee.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Pratt*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Reno,* except Hutchinson.....	7	0	0	0	0	0	0	0	0	0	0	0	0
Republic.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Rice.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Riley.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Rooks.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Rush*.....													
Russell*.....													
Saline*.....													
Scott.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	18	2	2	0	1	0	0	0	0	0	0	0	0
Seward.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Shawnee, except Topeka.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sheridan.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Sherman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Stafford*.....													
Stanton*.....													
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	10	1	0	0	0	0	0	0	0	0	0	0	0
Thomas.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Trego.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wabasa.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wallace*.....													
Washington.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	10	1	0	0	0	0	0	0	0	0	0	0	0
Woodson.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Wyandotte, except* Kansas City.....	9	4	0	0	0	2	0	0	0	0	0	0	0

* No report.

Drug Analyses No. L.

(Concluded from September Bulletin.)

ESSENCE OF PEPSIN.

Lab. No.	Insp. No.	NAME.	City.	Cc. undigested albumin.
6382	20890	Bacon Drug Company.....	Holton.....	8.3
6388	20898	Jehlik Pharmacy.....	Cuba.....	16.1
6390	20900	John A. Brown.....	Washington.....	2.5
6394	20905	Central Drug Store.....	Hanover.....	3.6
6413	20916	W. L. Borst.....	Meriden.....	4.0
6426	20921	H. E. Van Nog.....	Linwood.....	4.8
6414	20915	J. L. Clark.....	Seneca.....	5.0

NITROGLYCERIN TABLETS.

Lab. No.	Insp. No.	NAME.	City.	Gra. nitroglycerin per tablet.	
				Declared.	Found.
6200	20728	W. L. Borst.....	Meriden.....	1/100	1.1620
6389	20899	J. E. Janeway.....	Haddam.....	1/100	5/100
6396	20907	Rommell Drug Company.....	Waterville.....	1/50	14.1000
6421	100007	Maltbe Chemical Company.....	Newark, N. J. ...	1/100	73/10000
6429	20924	Barker & Funk.....	Clay Center....	1/100	96/10000

PEPSIN GUM.

Lab. No.	Insp. No.	NAME.	City.	Brand.	Pepsin test.
6383	20893	Republic Pharmacy.....	Belleville.....	Listerated pepsin	Negative.
6384	20894	Republic Pharmacy.....	Belleville.....	Spearment pepsin	Positive.
6386	20895	Republic Pharmacy.....	Belleville.....	Beeman's pepsin.	Positive.
6405	70388	Kaufmann Grocery Company.....	Fort Scott.....	Kis-Me.....	Negative.
6406	70389	Prichard-Blachly Drug Company..	Fort Scott.....	Rexall.....	Positive.
6407	70390	Prichard-Blachly Drug Company..	Fort Scott.....	Beeman's.....	Positive.
6408	70391	Prichard-Blachly Drug Company..	Fort Scott.....	Wrigley's.....	Positive.
6409	70392	Prichard-Blachly Drug Company..	Fort Scott.....	Peptomint.....	Positive.
6410	70393	Bargain Center.....	Fort Scott.....	Zeno.....	Positive.
6417	70394	Kindley Traction Co., news stand..	Coffeyville.....	Coca-Cola.....	Positive.
6418	70395	Kindley Traction Co., news stand..	Coffeyville.....	Coca-Cola.....	Positive.
6419	70407	F. W. Woolworth.....	Independence...	Greenwood.....	Negative.
6420	70408	Wills & Sons.....	Independence...	Smith's.....	Negative.

BOILED LINSEED OIL.*

Lab. No.	Insp. No.	NAME AND CITY.	Specific gravity.	Saponifiable value.	Iodin number.	Reference index.	Dry test.	Unsaponifiable matter.
6377	100004	M. Noll & Son..... Atchison.	.933	192.30	.....	1.4840	20	.....
6389	100005	Sieben & Davis.....	.936	195.09	180.36	1.4828	72	7.78
6400		Winchester.		185.30	160.5 (Hubl.)	.....	20	
6415	20917	†F. E. O'Neil..... Winchester.	.945	185.50	162.5 (Han.)	1.4860	20	7.63
6416	20918	Sieben & Davis..... Winchester.	.943	185.80	162.78 (Han.)	1.4860	20	7.86
6427	20922	Hoover Paint Store..... Clay Center.	.931	186.10	.....	1.4830	20	.....
6428†	20923	Vincent Hardware Company.... Mound City.	.929	194.20	190.11 (Han.)	1.4840	.....	.....
6437	100012	‡Sewall Paint and Glass Co..... Kansas City, Mo.	.945	185.80	.....	1.4865	20	13.50

*Linseed oil should conform to standard published in Bulletin No. 5, 1912.

†Raw linseed oil.

‡Said to be from stock of Sieben & Davis, Winchester, Kan.

ASPIRIN TABLETS.

Lab. No.	Insp. No.	NAME.	City.	Grains aspirin per tablet.	
				Declared.	Found.
6249	20757	E. E. Armstrong.....	Gardner.....	.....	4.75
6436	100011	Kaff & Stowe.....	Atchison.....	5	4.5
6350	20875	A. E. Topping.....	Overbrook.....	5	4.17

OIL OF WINTERGREEN LEAVES.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Optical rotation.	Color reaction.
6433	20929	Priest Drug Company.....	Clay Center.....	1.1766	— .09°	Positive
6431	20927	Jennings Drug Store.....	Clay Center.....	1.1772	— .2°	Positive

*Oil of wintergreen leaves should have specific gravity 1.172 to 1.180 at 25 degrees. It is slightly levogyrate. It should conform to tests for methyl salicylate.

Lab. No. 5953, Insp. No. 20474. "Brown Mixture." Viaduct Pharmacy, Kansas City. Low in alcohol.

Lab. No. 6216, Insp. No. 20736. "Tr. Strophanthus." Farnsworth Drug Co., Hoisington. Passed.

Lab. No. 6356, Insp. No. 20882. "Jamaica Ginger." W. A. Smiley, Wilder. Contained alcohol, 69.4 per cent; extractive, 1.94 gms. per 100 cc. Sample was not U. S. P.

Lab. No. 6379, Insp. No. 20885. "Tr. Belladonna Leaves." Dr. G. A. Van Diest, Prairie View. Contained 0.0358 gm. mydriatic alkaloids per 100 cc. Passed.

Lab. No. 6411, Insp. No. 20910. "Ess. of Peppermint." Smith & Lindsay, Powhattan. Contained 0.6 cc. oil in 100 cc. Adulterated. Should contain 10 cc.

Lab. No. 6412, Insp. No. 20911. "Elix. of Pepsin." F. G. Beaulieu, Sabetha. Assay showed 16 cc. undigested albumin.

Lab. No. 6424, Insp. No. 20919. "Elixir of Nitroglycerin Co." Dick Bros., Lawrence. Strychnine sulphate, 0.148 gr. per ounce. Digitalin, present. Nitroglycerin not determined.

Lab. No. 6425, Insp. No. 20920. "Cod Liver Oil Cough Candy." C. W. Straffon, Lawrence. Consisted mainly of sugar with small amounts of charcoal, cornstarch, and an unidentified vegetable powder. Contained 0.23 per cent cod-liver oil. Peppermint flavor.

Lab. No. 6430, Insp. No. 20926. "Tablets Nitroglycerin Co." Gramley's Drug Store, Clay Center. Nitroglycerin per tablet, 0.0072 gr.

Lab. No. 6432, Insp. No. 20928. "Tablets Nitroglycerin Co." A. Jennings' Drug Store, Clay Center. No nitroglycerin present. Misbranded.

Lab. No. 5764, Insp. No. 20258. "Imitation Bear's Oil." C. C. Wedel & Co., Moundridge. Consisted of cottonseed oil perfumed with oil of citronella.

Lab. No. 5907, Insp. No. 20425. "Imit. Peppermint." A very weak solution of menthol. Declared to contain imitation oil of peppermint, glycerin, alcohol, and water. Glycerin was not detected.

Lab. No. 6242, Insp. No. 20750. "Nitroglycerin Co." A. T. Stewart, Denton. Contained nitroglycerine per oz., 0.084 gr.; strychnine sulphate per oz., 0.15 gr.; solids per 100 cc.. 27.5 gms.

Lab. No. 6303, Insp. No. 20848. "Granulated Effervescent Aspirin." C. C. Shaler, Lawrence. No aspirin present. Probably had decomposed and exists as a salicylate. Salicylic acid, 4.8 per cent.

Lab. No. 6324, Insp. No. 90579. "Coke." Kross Bros., Topeka. Contained caffein, 1.1 grs. per oz. No other alkaloids detected.

Lab. No. 6352, Insp. No. 20877. "Sulpho Tartar Tablets." A. R. Engleman, Overbrook. Contained potassium bitartrate, 19.3 per cent; sugar, 67.6 per cent; talc, 3 per cent; moisture, .07 per cent; sulphur, 19.4 per cent.

Lab. No. 6370, Insp. No. 20888. "Anti-Gripine." H. A. Harmon, Phillipsburg. Contained acetanilid, 42.4 per cent; sodium bicarbonate, 17 per cent; silicate, 7.46 per cent; charcoal, 4.59 per cent. Oleoresin of capsicum present.

Lab. No. 6380, Insp. No. 20886. "Elixir Nitroglycerin Co." W. S. Foster, Long Island. Strychnine sulphate, 0.17 gr. per oz.; nitroglycerin, .077 gr. per. oz.; positive test for digitalin.

Lab. No. 6376, Insp. No. 90574. "Imitation Kola." Second Balocca, Paola. Contained no alkaloids. Contained 55 per cent alcohol.

Lab. No. 6375, Insp. No. 90573. "Kola Ext." Second Balocca, Paola. Contained no alkaloids. Contained 45 per cent alcohol.

Lab. No. 6386, Insp. No. 20896. "Tablets of Nitroglycerin Co." Arbuthnot Drug Co., Belleville. Contained 0.00043 gr. nitroglycerin. Declared to contain 0.01 gr.

Lab. No. 6387, Insp. No. 20897. "Cascarilla Tonic." Contained 24 per cent alcohol by volume; 0.812 gr. extractive per 100 cc. Gives positive test for emodin.

Lab. No. 6391, Insp. No. 20901. "Morphine Tablets." John A. Brown, Washington. Contained 0.3 gr. morphine sulphate per tablet.

Lab. No. 6395, Insp. No. 20906. "Acidine." Hanover Bottling Works, Hanover. Specific gravity, 1.41. Contained 61 per cent phosphoric acid.

Lab. No. 6403, Insp. No. 80407. "Tobacco Cleanse." Manhattan Drug Co., Wichita. Contained silver salicylate and trace of sulphate.

Lab. No. 6434, Insp. No. 100010. "Prepared Coffee." Sent in to office by Dr. M. J. Tanguay, Independence. Contained strychnine.

Lab. No. 6074, Insp. No. 80327. "Febriline or Tasteless Syrup of Amorphous Quinine (Lyons)." Paris Medicine Co., St. Louis, Mo. Declared that each teaspoonful is equal to two grains of quinine, that it is made from purified amorphous quinine, and is equal to the bitter quinine in every respect. Declared to contain 24 grs. Found to contain 25.6 grs. Found to be quinidine and not quinine.

Lab. No. 6358, Insp. No. 80406. "Acid Aceto Salicylic Acid." Tablets contained 4.6 grs.

Lab. No. 6373, Insp. No. ——. "Ideal Health Beer." Contained 1.8 per cent alcohol.

Report of the Division of Food and Drugs.

During the month of September, 1914, our traveling inspectors have visited 108 cities and towns. Inspections were made in the following places: Akron, Agricola, Almo, Alta Vista, Atlanta, Arkansas City, Aleda, Burden, Burlingame, Burlington, Belle Plaine, Bala, Broughton, Bazaar, Biglow, Barrett, Baldwin, Bonner Springs, Chanute, Carbondale, Centralia, Corning, Caldwell, Clay Center, Clements, Cedar Point, Cleborne, Cottonwood Falls, Corbin, Conway Springs, Dale, Derby, Dwight, Dexter, Drury, Dalton, Eaton, Ellendale, Edwardsville, Floral, Florence, Fort Scott, Frankfort, Galesburg, Garnett, Goff, Halls Summit, Herington, Hackney, Hepler, Hutchinson, Hiattville, Homewood, Havensville, Iola, Kellogg, LeRoy, Lawrence, Latham, LaCygne, Leonardville, Mulvane, Matfield Green, Moran, Milford, New Salem, Newton, Ottawa, Onaga, Piqua, Perry, Pooleville, Perth, Paola, Pleasanton, Quenemo, Rose Hill, Rock, Rosedale, Rome, Randolph, Ransomville, Rosemont, Richter, Sharpe, St. Paul, Sedgwick, Scranton, Silverdale, Strong City, Soldier, Topeka, Thayer, Tisdale, Trent, Tonganoxie, Udall, Volland, Vliet, Winfield, Wilmot, Waverly, Wellington, Wichita, Walsburg, Wakefield, Williamsburg.

The feature of this September's inspection has been the inspection of the food and drink concession stands at the state and county fairs. In addition to their regular duties our inspectors have inspected and patrolled the food and drink concession stands at the fairs held at Topeka, Hutchinson, Iola, Lawrence, Stark, and Burlington. At these fairs dealers were made to properly protect food and drink from dust, dirt or other contamination, and also to properly label drinks, etc., to conform to our food law. A number of food and drink stands on the street, at shows and in parks, were found to be displaying their goods without proper cover or protection from flies, dust or dirt. These venders were required to comply with our sanitary inspection law. A number of circus stands at Wichita and at Wellington were checked up in regard to the use of illegal material in their soft drinks sold to the public.

A variety of other inspections were made during the month of September by our inspectors, including groceries, meat mar-

kets, bakeries, drug stores, etc. The total number of places inspected for September by our traveling inspectors was 896. Forty-one and eight-tenths per cent of these were reported as in "good" sanitation, 46.53 per cent reported as "fair" sanitation, and only 3.57 per cent as "poor" sanitation. The summary of inspections made during the month of September is shown in the following table:

SUMMARY OF INSPECTIONS MADE DURING THE MONTH OF SEPTEMBER, 1914.

Kind of place inspected.	Number inspected.	Sanitary condition			
		Number good.	Number good to fair.	Number fair.	Number poor.
Grocery	224	94	15	111	4
Meat market	81	8	8	19	1
Grocery and meat market.....	20	5	2	11	2
Bakery	41	16	8	14	3
Confectionery and ice cream.....	8	2	1	...	...
Soft drink place and fountains, at restaurants, pool halls and cigar stands.....	15	6	1	7	1
Confectionery	15	11	1	8	...
Hotel and restaurant food display.....	6	8	...	...	3
Bottling works	9	6	...	8	...
Elevator	2	2	...	...	...
Feed store	5	5	...	...	...
Feed mill	4	8	1	...	...
Flour mill	2	2	...	...	...
Corn meal mill.....	1	1	...	...	...
Cider mill	1	...	...	1	...
Tea and coffee store.....	1	1	...	...	...
Grocery and restaurant.....	8	1	...	2	...
Slaughter houses	18	4	...	9	5
Packing house	1	1	...	...	...
Ice cream factory.....	5	8	2	...	...
Vinegar factory	8	...	1	2	...
Pickle factory	1	1	...	...	...
Biscuit factory	1	1	...	...	...
Canning factory	2	...	1	1	...
Wholesale grocery	4	2	1	1	...
Drug manufacturer	2	1	...	1	...
Patent medicine stock.....	6	5	...	1	...
Patent medicine wagon stock.....	2	2	...	...	...
Drug stores	108	86	6	61	...
Linseed oil inspections.....	25	...	...	...	...
Food and drink concessions:					
Iola fair	27	10	6	11	...
Lawrence fair	18	...	...	18	...
Burlington fair	40	...	...	40	...
Topeka and Hutchinson fairs.....	198	...	...	198	...
Food and drink stands on streets, at shows and in parks.....	10	...	...	10	...
Food and drink stands at circuses (Wichita and Wellington)	12	...	...	12	...
Miscellaneous inspections not classed.....	85	...	...	...	...
Totals	896	282	49	536	19

Per cent of sanitation (exclusive of street food and fair stands, linseed oil inspections and miscellaneous not classed): Good, 41.80 per cent; good to fair, 8.10 per cent; fair, 46.53 per cent; poor, 3.57 per cent.

The following table shows the results of analyses of food and drugs reported to this division during the month of September, 1914:

FOODS.				
Kind of sample.	Number.....	Number passed.....	Number misbranded....	Number adulterated....
Baking powder	2	1	..	1
Apple butter	1	..	..	1
Cocoa	1	1	..	..
Foam producer	2	..	..	2
Food color	1	1	..	..
Extract (lemon)	3	1	..	2
Flavor (vanilla)	1	..	1	..
Flavor (banana)	1	..	..	1
Flavor (pineapple)	1	..	..	1
Flavor (strawberry)	1	..	..	1
Flour (wheat)	3	1	2	..
Flour (graham)	1	1	..	..
Hog and hominy.....	1	..	..	1
Sardines in oil.....	2	..	..	2
Lard	1	1	..	..
Milk powder	1	1	..	..
<i>Temperance beers.</i>				
"Adams Special"	1	..	1	..
"Silver Top"	1	1	..	..
"Tanhauser"	1	..	1	..
"Puritan"	2	..	2	..
Rice	1	..	1	..
Sweet oil	1	..	1	..
"Kaffee Hag"	1	1	..	..
Total	31	10	9	12

DRUGS.				
Kind of sample.	Number.....	Number passed.....	Number above standard.....	Number below standard.....
Powdered asafoetida	1	..	..	1
Essence of peppermint	1	1	..	..
Essence of pepsin	2	..	..	2
Spirits of camphor.....	1	1	..	..
Citric acid	1	..	..	1
Compound licorice powder.....	1	1	..	..
True oil of wintergreen.....	1	1	..	..
Oil wintergreen leaves.....	1	1	..	..
Tablets nitro-glycerine compound.....	1	1	..	..
.01 gr. nitro-glycerine tablets.....	2	1	..	1
Liniment	1	1	..	..
Sweet spirits of nitre.....	1	1	..	..
Total	14	8	..	6

One baking powder, probably of old stock, put up by the Rumford Chemical Works, Providence, R. I., was declared illegal because it contained only 3.55 per cent available carbon dioxide, when it should have contained at least 10 per cent available carbon dioxide. Another sample of this same brand

was obtained with the understanding that it was of new stock, and according to analyses contained the requisite amount of available carbon dioxide, hence was passed. One sample of apple butter sent to this office by the assistant physician of the Kansas State Home for Feeble-minded Children, and claimed to have been purchased from Reid, Murdoch & Company, Chicago, Ill., was declared illegal in that it was in a fermented condition. The assistant physician of this Home claims that of the 48 one-gallon cans delivered by this company to the Home, twelve had eaten through the can. Another sample of apple butter will be tested for the amount of tin found in solution, caused by the action of the fermented apple butter on the tin can. Two "foam producers" were declared illegal in that they contained a poisonous ingredient in the shape of the poisonous glucoside saponin. One sample of lemon extract was illegal in that it contained added coloring matter, which is prohibited in all extracts or flavors, whether genuine or imitation. Flavors or extracts of banana, pineapple and strawberry were likewise declared illegal on account of added coloring matter. One flavor or extract of vanilla was misbranded in that it did not conform to our definition of flavoring or extract, since it should be an alcoholic solution, according to our definition. This applies also to the banana, pineapple and strawberry mentioned above. These above so-called flavorings or extracts were manufactured by the We-Li-Ka Manufacturing Co., Memphis, Tenn. This company has agreed to take these products off the Kansas markets or label them in accordance with the requirements of our law. One of the lemon extracts declared illegal was sent in by the G. W. Chase & Son Mercantile Co., St. Joseph, Mo. This lemon extract was of their own manufacture, and contained less than 0.1 per cent lemon oil, by volume, when it should have contained 5 per cent lemon oil, by volume.

Two samples of flour from the Walnut Creek Milling Company, Great Bend, Kan., were declared misbranded because they were found to be "bleached" by Alsop process, and were not labeled accordingly. This firm has agreed to properly label their flour in the future.

One sample of so-called canned "Hog & Hominy," Walker's brand, was declared adulterated because of the excessive amount of tin found in contents of the can. The interior of

the can was badly corroded, and contents were found in bad condition and very unappetizing. A couple of hog hairs were found present.

Two samples of Sardines in Oil were found illegal in that there was an excessive amount of tin in the contents. These were packed by the Sea Coast Canning Company, Eastport, Me.

Four samples of so-called non-alcoholic temperance beers were declared misbranded in that they contained alcohol.

One sample of so-called Marco Brand "Unpolished" Rice, put out by the Johnson-Layne Coffee Company, St. Louis, Mo., was found to be "polished," and hence was declared illegal. This firm has promised to label this product correctly.

A sample marked Sweet Oil in large letters and then in small letters Cottonseed Oil, packed for Watson-Durand-Kasper Grocery Company, Salina, Kan., was declared misbranded. It is held that any oil other than olive oil is misbranded when sold under the name "Sweet Oil." This company has shipped this product back to the manufacturer.

The powdered asafoetida reported was below standard and illegal in that the ash content was found to be 24.05 per cent when it should not exceed 15 per cent, according to the U. S. P.

Two samples of essence of pepsin were declared illegal in that they did not conform to the formula as laid down in the National Formulary.

One specimen of so-called citric acid was declared illegal because it was found by analysis to be principally tartaric acid.

The tablets of nitro-glycerin compound were below standard in that they did not contain sufficient nitro-glycerin as declared upon the label.

One sample of $\frac{1}{100}$ gr. nitro-glycerin tablets was declared below standard in that it failed to correspond to the amount as claimed upon the label.

During the month of September our traveling inspectors inspected 606 scales, 1873 weights, and 408 measures. They condemn six scales, twenty-nine weights, and no measures.

SPECIAL REMARKS.

The merchants, especially those of the grocery stores and bakeries, should take better care of the interior food display of their places of business. Especial attention is drawn to the display of dried fruits, candy, bread, etc. Vegetables and fruits should be kept off from the floor—at least two feet. By

a more sanitary display of food products inside our stores, we will have a more attractive appearance to the buyer, besides giving a sanitary and clean display.

A subject which is of interest to the consumer of food, and which is brought at this time to the attention of all dealers in food products is the weight question. All food dealers are hereby notified to make all weights not less than the quantity represented net weight, allowing for wrappings and trays, etc.

LEON A. CONGDON, B. S.,
Chief of Division.

Public Health Lectures.

The Kansas State Board of Health has joined hands with the Committee on Health and Public Instruction of the Kansas State Medical Society to offer its services for the establishment of a lecture course on public health topics. Any organization, club, church, school or community that may desire one or more addresses on any of the topics herewith listed should apply to the secretary of the State Board of Health, Topeka, when appropriate arrangements will be made for sending any one designated in the following list of speakers to give a lecture, provided only that the actual traveling expense of the speaker and all local expenses be met by the local parties.

The following list of speakers will be available:

1. For the committee on health and public instruction of the State Medical Society:
 - Dr. C. C. Nesselrode, Kansas City, Kan.
 - Dr. M. T. Sudler, Lawrence, Kan.
 - Dr. O. D. Walker, Salina, Kan.
 - Dr. M. Trueheart, Sterling, Kan.
 - Dr. T. A. Jones, Liberal, Kan.
2. On behalf of the committee for the conservation of vision of the A. M. A.:
 - Dr. James May, Kansas City, Kan.
3. On behalf of the State Board of Health and its advisory members:
 - a. *Members of Board.*
 - Dr. J. S. Cummings, president, Bronson, Kan.
 - Dr. W. D. Hunt, Emporia, Kan.
 - Dr. C. H. Lerrigo, Topeka, Kan.
 - Dr. B. J. Alexander, Hiawatha, Kan.
 - Dr. O. S. Rich, Wichita, Kan.
 - Dr. Jessie T. Orr, Olathe, Kan.
 - Dr. W. J. Priest, Concordia, Kan.
 - Dr. V. C. Eddy, Colby, Kan.
 - Dr. J. H. Winterbotham, Salina, Kan.
 - Dr. S. J. Crumbine, secretary, Topeka, Kan.
 - Mr. Otis Allen, attorney, Topeka, Kan.

b. Members of the Advisory Board.

Prof. C. A. Haskins, engineer, K. U., Lawrence, Kan.
 Fred R. Hesser, asst. engineer, K. U., Lawrence, Kan.
 Joseph E. Welker, asst. engineer, K. U., Lawrence, Kan.
 Prof. E. H. S. Bailey, food analyst, K. U., Lawrence, Kan.
 Prof. L. E. Sayre, drug analyst, K. U., Lawrence, Kan.
 Prof. J. T. Willard, food analyst, K. S. A. C., Manhattan, Kan.
 Dr. R. S. Magee, pathologist, Topeka, Kan.
 Dr. S. E. Greenfield, bacteriologist, Topeka, Kan.
 Prof. F. W. Blackmar, sociologist, Topeka, Kan.
 Dr. John J. Sippy, epidemiologist, Topeka, Kan.
 W. J. V. Deacon, state registrar, Topeka, Kan.
 Leon A. Congdon, B. S., asst. chief food and drug inspector,
 Topeka, Kan.

4. Additional speakers on behalf of the University of Kansas:

Dr. James Naismith, director of physical education.
 Prof. F. H. Billings, professor of botany and bacteriology.
 Prof. Ernest W. Burgess, department of sociology.
 Prof. S. J. Hunter, state entomologist.
 Prof. Edward Stimpson, deputy state sealer.
 Dr. John Sundwall, professor of anatomy, School of
 Medicine.
 Dr. Lindsay S. Milne, professor of internal medicine, School
 of Medicine.
 Dr. Walter S. Sutton, associate professor of surgery, School
 of Medicine.
 Prof. W. A. McKeever, professor of child welfare, K. U.
 Dr. S. A. Mathews, professor of physiology.

The following lectures are available, most of which are illustrated with stereopticon:

1. The Menace of Cancer (illustrated).
2. The White Plague (illustrated).
3. The Red Plague (illustrated).
4. Typhoid Fever and Its Prevention (illustrated).
5. The Typhoid Fly (illustrated).
6. Child Hygiene.
7. Conservation of Vision (illustrated, A. M. A.).
8. Conservation of Human Life.
9. The Economics of Preventable Disease.
10. Pellagra (illustrated).
11. Rural Sanitation (illustrated).
12. Sanitary Waste Disposal for Country Homes.
13. The Problem of Infant Mortality (illustrated).
14. Pure Foods (illustrated).
15. Foods, Fools and Frauds.
16. Chemistry in the Kitchen.
17. Pure Drugs and the Family Doctor.
18. Medical Fakes and Quacks (illustrated).
19. The Movement of Population V. S.
20. The Pollution of Underground Waters (illustrated).
21. The Outdoor Life (illustrated).
22. The Disposal of Domestic Sewage (illustrated).
23. The Problem of a Pure Water Supply (illustrated).
24. Prevention vs. Cure.
25. Hygiene of the Home and Shop.
26. The Care of the Baby (illustrated).
27. The Municipal Milk Problem (illustrated).
28. Insect-borne Diseases (illustrated).
29. The Social Aspects of Disease.

30. Rest and Exercise.
31. The Pittsburg Survey and Its Lessons (illustrated).
32. The Topeka Survey and Its Lessons (illustrated).
33. The Role Insects Play in the Transmission of Disease (illustrated).
34. Heredity, Its Effect on Physique, Health, Intellect and Character.
35. Parental Influence: Its Scope, Limitations and Abuse.
36. Habits: Their Influence on Physique, Education and Morality.
37. Play—Its Scope on the Life of the Child.
38. Adolescence and Its Problems.
39. Medical Examination in Schools.
40. The Development of Medicine.
41. The Significance of Bacteria in Food.
42. Child Welfare.
43. Coffee, coffee substitutes, spices and condiments: Their Use and Abuse: with Exhibit.
44. Nostrums, Quacks, and Medical Frauds and Their Relation to Public Welfare: with Exhibits.
45. Nerves and How to Control Them.
46. Foods as They Are, and Foods as They Ought to Be (illustrated).
47. Food Thrift (illustrated).
48. Elimination of the Socially Unfit.
49. Eugenics as a Social Factor.
50. Arrest of Development; Its Cause, Prevention and Treatment.

Success.

There are no "lifts" in the House of Success;
But the stairs are long and steep,
And the man who would climb
To the top, in his time,
Before he dare walk, must creep.

Of carpets there 're none in the House of Success;
But the floors are hard and bare,
And you 're likely to trip
And slide and slip,
In the pitfalls here and there.

There are no lounges or easy chairs,
Nor places to rest your spine,
But after you 've won
To the roof—there 's the sun
And, ah! but the view is fine!

—*The Optimist.*

Many fellows complain that they don't get on because they have no "pull." It takes "push" to get a "pull."

"But what am I?

An infant crying in the night;
An infant crying for the light,
And with no language but a cry."

Mother: Do you understand your baby's language?

**APROPOS OF THE CONVICTION OF A CERTAIN MAIL-ORDER
SWINDLER BY THE U. S. DISTRICT COURT IN KANSAS.**

BULLETIN

OF THE

Kansas State Board of Health.

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S. J. CRUMBINE, M. D., Editor.

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VOL. X.

CONTENTS.

Morbidity Statistics for October, 1914, page 266.
Report of Division of Food and Drugs for October, 1914, page 268.
The Prevalence of Diphtheria, page 277.
Our Knowledge of Cancer, page 280.
Foot-and-Mouth Disease, page 282.
Typhoid Epidemic, page 284.
The Annual Toll from Measles and Whooping Cough, page 285.
Adenoids, page 288.
Liability for Damages Results from Selling or Serving Unwholesome Food, page 289.
Unwrapped Bread, page 291.
Teaching Sex Hygiene in Schools, page 293.
Getting Ready for Winter, page 294.
Bat the Rat, page 295.

Ventilate.

"Let a little sunshine in."

Beware of the flueless gas stove!

The hot, stuffy room is pneumonia's best ally.

There are a few less rats in Kansas since "Bat the Rat" week.

Let us all play the "glad game" this year of peace and plenty.

Sore throat with fever should receive the prompt attention of your physician. Diphtheria is widely prevalent.

The calls for public health lectures as announced in the October BULLETIN promise to tax our time and resources.

In the treatment of diphtheria, time is an exceedingly important element. Antitoxin used early is almost a sure specific.

The Kansas supreme court has declared that "pure and wholesome food" must be served, or damages may be claimed by those made sick. Read the court's opinion on another page of this BULLETIN.

Report of Division of Food and Drugs, Kansas State Board of Health, for October, 1914.

During the month of October, 1914, the Division of Food and Drugs has made good progress in all lines of its activities. Our traveling inspectors have visited 168 towns and cities in various parts of the state. Inspections were made in the following places: Argonia, Attica, Arcadia, Adamsville, Ashton, Anthony, Aurora, Anson, Arrington, Blaine, Baxter Springs, Bronson, Bunkerhill, Burr Oak, Bluff City, Burlington, Belle Plaine, Beloit, Birmingham, Belpre, Caney, Coffeyville, Cherokee, Caldwell, Corning, Centralia, Columbus, Concordia, Chautauqua, Cedar Vale, Clyde, Cherryvale, Collyer, Campus, Courtland, Corwin, Crisfield, Cottonwood Falls, Conway Springs, Chase, Danville, Dorrance, DuQuoin, Denison, Ellsworth, Elgin, Ellis, Earleton, Effingham, Emporia, El Dorado, Ellinwood, Eureka, Fostoria, Frontenac, Ferguson, Freeport, Frederick, Florence, Geuda Springs, Girard, Goff, Galena, Grinnell, Grainfield, Galesburg, Garnett, Harper, Havensville, Hunnewell, Hays City, Havana, Hutchinson, Hamilton, Hazelton, Half Mound, Hudson, Hardtner, Iola, Jewell City, Kansas City, Kiowa, Kincaid, Lecompton, Larkinburg, Lewis, Lawrence, Lyons, Larned, Mayfield, Milan, Mulberry, Miltonvale, Metcalf, McCune, Monument, Mildred, Milton, Muscotah, Madison, Macksville, Niotaze, Netawaka, Nickerson, Olsburg, Oxford, Osage City, Oak Hill, Oakley, Ottawa, Parsons, Pittsburg, Portland, Peru, Park, Page, Pollard, Princeton, Quinter, Russell, Rosedale, Randall, Runnymede, Republic, Radium, Riverdale, Richmond, Soldier, South Haven, Scammon, Savonburg, Sedan, Scandia, Shook, St. Paul, South Mound, Seward, Saxman, Strong City, Sharon Springs, Severy, Strawn, Topeka, Toronto, Thayer, Uniontown, Vermilion, Victoria, Westmoreland, Wheaton, Weir City, Wetmore, Whiting, Wakarusa, Wilson, Waldron, Wa Keeney, Winona, Wetmore, Whiting, Walker, Weskan, Wallace, Waverly, and Yates Center.

The total number of places inspected in the above-named cities and towns was 714. Exclusive of linseed oil, special butter and miscellaneous inspections not classed, 270 were classed as in "good" sanitary condition, 42 as "good to fair," 346 as "fair," and 18 as in "poor" sanitary condition.

Percentage of sanitation (exclusive of those not classed) : 39.94 per cent good ; 6.21 per cent good to fair ; 51.18 per cent fair ; 2.67 per cent poor.

The following table gives the details as regards the kind of places inspected, number of these places inspected, and the number found in good, good to fair, fair, or poor sanitary condition :

SUMMARY OF SANITARY INSPECTION—OCTOBER, 1914.

KIND OF PLACE INSPECTED.	Num- ber of inspec- tions.	Sanitary condition.			
		Good.	Good to fair.	Fair.	Poor.
Grocery.....	253	107	11	132	3
Meat market.....	45	18	2	24	1
Grocery and meat market.....	25	11	2	10	3
Bakery.....	37	11	5	20	1
Confectionery and ice cream parlor.....	14	9	.....	4	1
Confectionery and soft drinks.....	7	4	.....	3	.....
Confectionery.....	2	2	.....	.....	.....
Soda fountain at restaurant.....	24	6	.....	15	3
Restaurant and hotel food display.....	4	1	1	2	.....
Bottling works.....	7	3	1	3	.....
Soft-drink place at pool rooms and cigar stands.....	10	4	.....	6	.....
Fountain at racket bookstores, etc.....	4	2	.....	2	.....
Elevators.....	3	3	.....	.....	.....
Feed stores.....	3	3	.....	.....	.....
Feed mills.....	3	3	.....	.....	.....
Flour mills.....	4	3	1	.....	.....
Meat market and restaurant.....	2	.....	.....	2	.....
Grocery and restaurant.....	4	1	.....	3	.....
Bakery and restaurant.....	1	.....	1	.....	.....
Grocery and bakery.....	1	.....	.....	1	.....
Grocery, meat market and restaurant.....	2	1	.....	1	.....
Bakery, confectionery and restaurant.....	1	.....	.....	1	.....
Slaughter house.....	13	2	.....	10	1
Packing house.....	1	1	.....	.....	.....
Creamery.....	2	.....	.....	1	1
Ice-cream factory.....	7	4	1	2	.....
Cider factory.....	1	.....	.....	.....	1
Candy factory.....	2	1	.....	1	.....
Wholesale grocery.....	3	1	.....	2	.....
Soda fountain at barber shop.....	1	.....	.....	.....	1
Fair concessions at Unionville.....	10	.....	1	9	.....
Sidewalk display.....	5	.....	.....	5	.....
Fruit stand.....	1	.....	.....	.....	1
Food and drink stands at Lyons carnival.....	4	.....	.....	4	.....
Drug stores.....	164	67	15	81	1
Patent medicine stocks.....	5	1	1	2	1
Patent medicine wagon.....	1	1	.....	.....	.....
Linseed oil inspections.....	22	.....	.....	.....	.....
Special butter inspections.....	11	.....	.....	.....	.....
Miscellaneous, not classed.....	5	.....	.....	.....	.....
Totals.....	714	270	42	346	18

The following table gives the results of analyses of food and drugs reported to this division during the month of October, 1914:

FOOD.					DRUGS.				
KIND OF SAMPLE.	Number.....	Passed.....	Misbranded.....	Adulterated.....	KIND OF SAMPLE.	Number.....	Passed.....	Above standard.....	Misbranded or below standard.....
Canned Asparagus.....	6	2	.....	4	Bay rum (alcohol as declared).....	2	1	.....	1
Butter.....	1	.....	1	.....	Essence of peppermint.....	2	1	.....	1
Milk.....	7	7	.....	.....	Fluid Extract of cocoa.....	1	.....	.....	1
Pork and beans.....	2	2	.....	.....	Ginger.....	2	2	.....	.....
Pancake flour.....	1	1	.....	.....	Pepsin gum.....	3	1	.....	2
Roman meal.....	1	.....	.....	.....	Liquid phenol.....	1	1	.....	.....
Canned Sardines.....	1	1	.....	.....	Crude pyroligenous acid.....	1	.....	.....	1
Dried apricots.....	2	.....	.....	2	Spirits of camphor.....	8	4	.....	4
Dried peaches.....	2	.....	.....	2	Sweet spirits of nitre.....	4	1	.....	3
Raisins.....	2	2	.....	.....	Hydrogen peroxide.....	1	.....	.....	1
Apple butter.....	6	6	.....	.....	Tincture of ginger.....	5	5	.....	.....
Peach butter.....	1	1	.....	.....	Tincture of iodine.....	2	1	1	.....
Baking powder.....	7	.....	.....	7	Po blistering flies.....	1	.....	.....	1
Cocoa.....	3	3	.....	.....	Mother Gray's Powder for children.....	1	.....	.....	1
Compound extract of vanilla, coumarin and vanillin.....	2	1	.....	1	Sarsaparilla and dandelion compound.....	1	.....	.....	1
Imitation maple flavor.....	1	.....	.....	1	0.01 Nitro-glycerine tablets.....	1	.....	.....	.....
Orange extract.....	1	.....	.....	.....	Boiled linseed oil.....	2	.....	.....	2
Lemon extract.....	1	.....	.....	.....	Turpentine.....	1	.....	.....	1
"Areotite" granulated coffee.....	1	.....	.....	1	Tincture of gentian compound.....	1	1	.....	.....
Apple cider.....	3	.....	3	.....	Total.....	40	18	1	20
Lemonade.....	6	6	.....	.....			
Orangeade.....	3	2	1	.....				
Acidine.....	1	1	.....	.....			
Yeast.....	1	1	.....	.....			
Apple jelly.....	1	.....	.....	1					
California honey.....	1	1	.....	.....			
Total.....	64	37	5	20					

This tabulation of samples of food and drugs taken up by our inspectors and reported upon by our analysts can only be commented upon in a general way at this time. The four brands of canned asparagus declared adulterated were so classed because of the amount of tin, or salts of tin, found in the contents. A ruling of this department limits the amount of tin which should be found in the contents of canned goods. This amount is not more than 300 mg. per kilogram of sample. The following brands were found by our chemist to have an excess of this amount: Griffin's, Mission, River View, and Acropolis. One sample of butter was declared misbranded in that it was short in weight as required by our net-weight butter law.

The dried apricots and dried peaches were declared adulterated in that they contained an excessive amount of sulphur dioxide; also, some of these samples did not contain a state-

ment as to the presence of sulphur dioxide, hence were also misbranded.

Six of the seven samples of baking powder declared adulterated were passed as regards the available carbon dioxide, but contained an excess of 20 parts per million of lead, which makes them illegal under our rulings for toxic metals. The other sample of baking powder reported was deficient in carbon dioxide available. These analyses include some prominent brands of baking powder.

Watkin's Brand of Compound Extract of Vanilla, Coumarin and Vanillin was declared illegal in that it contained added coloring matter, which is prohibited in extracts, flavors, imitation extracts, etc. Likewise a sample of imitation maple flavor was declared illegal.

One sample of granulated coffee, "Areotite" brand, was declared adulterated because it contained some cereal and was not so labeled.

Two of the three samples of apple cider were declared misbranded in that they contained benzoic acid and were not so labeled. The other sample of apple cider was declared misbranded in that it should be labeled as a fermented product, since it contained 6.85 per cent alcohol.

One sample of orangeade was misbranded in that it was an imitation product and should be so labeled.

The sample of apple jelly declared adulterated contained tartaric acid, which is prohibited as an added ingredient to either food or beverages. This sample was also moldy.

The drug samples which did not pass were either misbranded or else substandard or above standard, as indicated in the tabulation.

During the month of October, 1914, our traveling inspectors have examined 608 scales, 2576 weights, and 758 measures. They have condemned six scales, seventeen weights and no measures.

SLAUGHTERHOUSE SURVEY.

During the period of July 1, 1914, to October 1, 1914, a number of the county health officers have reported to this division the sanitary condition of the country and town slaughterhouses of their counties. We wish to submit a summary of this slaughterhouse inspection. A circular letter was sent by this division to each county health officer and also to the health

officers of the first-class cities, July 1, 1914, inquiring into the sanitary condition of the slaughterhouses of their territory and asking for a report. Space will not permit us to give this sanitary survey in detail. In conjunction with this report we have also given the summary of the sanitary condition of the slaughterhouses inspected by our state traveling food inspectors covering this period. Reports were received from twenty-nine county health officers and two health officers of the cities of the first class. Detailed reports were received which showed 112 towns had been visited to make a survey of the slaughterhouses of these towns. The number of slaughterhouses reported upon by the health officers was 101. The number of slaughterhouses reported by our state traveling food inspectors for this period was 66. These inspections include a survey of 42 counties. The number of slaughterhouses which were not found in use was 49; the number found in use was 104. Of this number, 12 were in excellent shape, 39 in fair condition, 17 in poor condition, and 8 in abominable shape.

SPECIAL REMARKS.

The trade is notified that the opinion, in regard to "Alum in Pickles," as given in Service and Regulatory Announcements for September, 1914, issued by the United States Department of Agriculture, Bureau of Chemistry, does *not* affect the ruling from this department in regard to the objection as to the use of alum in pickles. This department rules that the use of alum in the manufacture of pickles for sale is prohibited in the state of Kansas.

We have had a great deal of complaint, particularly from the smaller towns, in regard to violations of our weights and measures law concerning such products as potatoes, apples, and such other commodities as have legal weights per bushel. Dealers are warned that, unless parties have agreed upon any other calculations or measurements, that all statements and representations of any kind referring to the weights or measures of commodities sold or purchased, or exposed for sale, shall be understood in terms of the standards of weights or measures adopted by this state in the weights and measures law of 1909, as amended in 1911 and 1913. The legal weights and measures of food products will be sent to all who apply to this division for them, or to all who apply to the deputy state

sealer of weights and measures at the University of Kansas, Lawrence.

We have received food analyses LI from the University food laboratory, under the direction of E. H. S. Bailey, Ph. D., with W. S. Long in charge of the laboratory, and Agnes Anderson, analyst. This food report covers the samples analyzed at this laboratory up to September 1, 1914. The following tables summarize the report from the University food laboratory.

LON A. CONGDON, B. S.

FOOD ANALYSES No. LI.

BAKING POWDERS.

501. Passed.
506. Passed.
508. Passed.

Lead (combined) may occur in baking powders as an impurity introduced with the phosphate or tartrate ingredients. The provisional limit of twenty parts per million set by the federal government suggested the determination of the condition of some Kansas samples with respect to this impurity. The results follow

		Lead. Parts per million.
506	Phosphate—alum	68
70346	Phosphate—alum	58
70347	Phosphate	51
70348	Phosphate—alum	66
70351	Phosphate—alum	53
70354	Phosphate—alum	67
70355	Phosphate—alum	58
70356	Phosphate	58
70357	Phosphate—alum	73
90507	Cream of tartar	20

NOTE.—These samples represent ten different brands.

BEVERAGES.

Attention is called to the fact that a drink made from tartaric acid, orange color, orange flavor, sugar and water can not properly be labeled "Orangeade." Orangeade, like lemonade, should be a mixture of the fruit juice with water and sugar.

90591 Orangeade. Passed.
90513 Orange. Manufacturer: Bennett & Son, McPherson, Kan. Retailer: Strickler & Beckner, Ramona, Kan. Illegal. Claimed to contain .01 per cent sodium benzoate; also artificially colored. Found to contain .06 per cent sodium benzoate. Misbranded.
90556 Orangeade. Manufacturer: Bennett & Son, McPherson, Kan. Retailer: Strickler & Beckner, Ramona, Kan. Illegal. Claimed artificially colored, with .01 per cent sodium benzoate. Found to be imitation made from tartaric acid, color, flavor, sugar and water.
90578 Grape Juice. Passed.
90580 Coke Soda Pop. Passed.
90581 Grape. Manufacturer: Wm. A. Beatty Co., Los Angeles, Cal. Retailer: Coca Cola Bottling Works, Topeka. Claimed as having added food color, free from preservative. Not found to be a grape product exclusively.
100003 Blackberry Phosphate Cider. Manufacturer: National Beverage Co., St. Louis, Mo. Retailer: S. J. Joy, Topeka, Kan. Illegal. Claimed to be made from pineapple cider, flavored with blackberry, and to be nonintoxicating. Found to contain 4.34 per cent alcohol by volume. Misbranded.
60042 Pop Syrup. Passed.
60043 Pop Syrup. Passed.
60044 Pop Syrup. Passed.

- 60045 Pop Syrup, Lemon. Manufacturer: Grubel Bottling Works, Kansas City, Kan. Retailer: Brubel Bottling Works, Kansas City, Kan. Illegal. Saponin present. Adulterated.
- 60046 Pop Syrup. Passed.
- 60047 Pop Syrup. Passed.
- 60047½ Pop Syrup. Passed.
- 60048 Pop. Passed.
- 60049 Pop. Passed.
- 60050 Pop. Passed.
- 60051 Pop. Passed.
- 60052 Pop. Passed.
- 60054 Pop. Passed.
- 60055 Lemon Pop. Manufacturer: Leo. Thoma, Kansas City, Mo. Retailer: J. Hahn, Kansas City, Kan. Illegal. Label specifies artificial color and flavor. Found to contain saponin. Adulterated.
- 60056 Pop. Passed.
- 60057 Pop. Passed.
- 60057a Pop. Passed.
- 60058 Temperance Beer. Passed.
- 60059 Silver Top. Manufacturer: Liquid Food Bottling Co., Kansas City, Mo. Retailer: Manhattan Bottling Works, Manhattan, Kan. Illegal. Labeled as an unfermented beverage. Found to contain .81 per cent alcohol by volume. Misbranded.
- 90629 Temperance Beer. Passed.
- 90627 Temperance Beer. Passed.
- 100016 Maltonic. Manufacturer: Ottumwa Maltonic & Ice Co., Ottumwa, Iowa. Illegal. Labeled as nonalcoholic. Found to contain .24 per cent alcohol by volume. Misbranded.
- 100017 Jingo. Manufacturer: Evansville Brewing Association, Evansville, Ind. Retailer: Walter McCoy, Conway, Kan. Illegal. Claimed to be a temperance beverage. Found to contain .24 per cent alcohol by volume. Misbranded.

CANDIES.

- 90571 Candy Eggs. Not enough color for identification.
- 90565 Cream Marshmallow Eggs. Manufacturer: E. J. Brach & Sons, Chicago. Retailer: W. H. Glynn & Sons, Emmett, Kan. Illegal. Contains a forbidden color. Adulterated.
- 90564 Candy. Passed.
- 90551 Candy. Passed.
- 90550 Candy. Passed.
- 90549 Candy. Passed.
- 513 Candy. Color doubtful.
- 512 Candy. Passed.
- 511 Candy. Passed.
- 510 Candy. Passed.
- 509 Candy. Passed.

CHOCOLATE.

- 90540 Richelieu. Manufacturer: Sprague-Warner, Chicago. Retailer: John Kaul & Son, Holton, Kan. Fat 34.3 per cent (sugar-free sample). Same should contain not less than 45 per cent cocoa fat. Misbranded in that it is labeled sweetened chocolate, when in fact it is sweetened cocoa.

CONES.

- 60006 Cones. Passed. No added mineral.
- 60007 Cones. Passed. No added mineral.
- 60008 Cones. Passed. No added mineral.

COLORS FOR FOOD.

- 90544 Red. Passed.
- 90545 Yellow. Passed.
- 90546 Blue. Passed.
- 90547 Grass Green. Doubtful.
- 90548 Brilliant Violet. Passed.
- 90553 Red. Passed.
- 90554 Orange. Passed.
- 90558 Orange. A mixture of a red and a yellow, with indications that one or both colors are uncertified.
- 90600 Damson Blue. Passed.

SUGAR CORN.

- 70207 Sugar Corn. Passed.
- 70210 Sugar Corn. Passed.
- 70249 Sugar Corn. Passed.

EXTRACTS AND FLAVORS.

- 504 Lemon Extract. Passed.
- 507 Zaniila. Manufacturer: Diamond Extract Co., St. Louis, Mo. Retailer, W. A. Guenther, Lawrence, Kan. Illegal. Claimed to be a distinctive flavor, compounded from purest crystals deliciously blended. Found to be a compound containing vanillin and coumarin in dilute alcoholic solution. Should be labeled "Imitation."
- 514 Vanilla. Manufacturer: California Perfume Co., New York City. Retailer: Mrs. L. A. Briggs, Lawrence, Kan. Illegal. Claimed to be vanilla, tonka and vanillin flavor, and colored with caramel. Should not be colored. An imitation flavoring is an uncolored solution consisting largely of artificial flavoring substances dissolved in ethyl alcohol of proper strength, is labeled as an imitation, and conforms in name to the flavor imitated.
- 20491 Vanilla. Doubtful. Duplicate sample requested.
- 20656 Vanilla. Doubtful.
- 20914 Vanilla. Manufacturer: C. D. Smith Drug Co., St. Joseph, Mo. Retailer: D. B. Harsh, Seneca, Kan. Illegal. Labeled as concentrated, when in fact it is not. Misbranded.
- 60000 Vanilla. Passed.
- 60005 Extract Banana. Manufacturer: Wherrett-Mize Co., Atchison, Kan. Retailer: Mergen & Co., Tipton, Kan. Illegal. Claimed to contain 46 per cent alcohol and to be free from artificial coloring. There is no such thing as an extract of banana. Misbranded.
- 60004 Strawberry Extract. Manufacturer: Wherrett-Mize Co., Atchison, Kan. Retailer: Mergen & Co., Tipton, Kan. Illegal. Claimed to be imitation, to contain 46 per cent alcohol, and free from artificial coloring. Misbranded in that it is labeled as extract, when in fact it is an imitation flavor.
- 70383 Superior Flavoring. Manufacturer: Arbuckle Brothers, Chicago. Retailer: Roberts Dry Goods Co., Englewood, Kan. Claimed as vanilla, vanillin, coumarin. Found to be a compound of vanilla extract and coumarin. Is not vanilla extract as invoiced, but an imitation. Should be labeled as an imitation vanilla, or as a compound of vanilla, vanillin and coumarin. Misbranded.
- 80382 Vanilla. Doubtful.
- 90583 Essence Peppermint. Manufacturer: Arnold Drug Co., Topeka, Kan. Retailer: J. Klopfenstein, Elmont, Kan. Illegal. Claimed to contain 85 per cent alcohol. Found to contain 4.47 per cent peppermint oil. Too low for essence of peppermint. Misbranded.
- 90552 Lemon Extract. Manufacturer: Forbes Bros. Tea and Spice Co., St. Louis, Mo. Retailer: D. M. Granger, Lawrence, Kan. Illegal. Directions for use indicate a product eight times as strong as an ordinary extract. Lemon oil, 6.6 per cent. Misbranded.
- 90555 Vanilla Extract. Manufacturer: O. A. Murdock, Kansas City, Mo. Retailer: E. E. Plank, Lawrence, Kan. Illegal. Claimed to contain 2 ounces. Volume found to be 1½ ounces. Was colored with caramel. Misbranded.
- 90577 Lemon Extract. Manufacturer: Mutual Mfg. Co., New York, N. Y. Retailer: W. T. Wood, Ottawa, Kan. Illegal. Label specifies color. Colored in violation of standards.
- 90598 Vanilla. Passed.
- 20925 Vanilla and Tonka Compound. Manufacturer: Nelson ———, Detroit. Retailer: Helds Drug Co., Clay Center, Kan. Illegal. Colored in violation of standards for extracts.
- 60033 Lemon. Manufacturer: G. W. Chase & Son Merc. Co., St. Joseph, Mo. Retailer: H. Fulviman, Greenleaf, Kan. Illegal. Labeled as 41 per cent alcohol. Found to contain 4.4 per cent lemon oil. Adulterated in that a valuable constituent has been partially removed.
- 60086 Vanilla. Passed.
- 60041 Broken when received at laboratory.
- 60053 Lemon. Manufacturer: Ennis-Hanley-Blackburn Coffee Co., Kansas City, Mo. Retailer: A. Holoferner, Kansas City, Kan. Illegal. Labeled "Imitation." Found to contain no lemon oil. Was colored, misbranded and adulterated.

FOAM PRODUCERS.

"The fact that froth on soda water is cheaper than the same volume of liquid and is sanctioned by custom has led to the extensive use of foam-producing substances." Among these substances is soap bark. Soap bark contains two saponins, both poisonous. While the advocates of the use of soap bark claim that the amount of the preparation necessary to produce the foam desired is too small to have any ill effect upon the human system, there are those who claim that no poison, in however small quantities, should be added to a food product.

Some work has been done upon Kansas samples of foam producers and beverages to determine how general is the use of such material in the state.

- 90599 Soap Bark. Sent in for comparison.
 20909 Crystal Foam. Saponin absent.
 20904 Soda Foam. Saponin absent.
 20892 Silver Foam. Illegal. Saponin present. Adulterated.
 20887 Soda Foam. Saponin absent.
 20912 Foamigator. Illegal. Saponin present. Adulterated.
 20932 Foamine. Illegal. Saponin present. Adulterated.

FRUITS.

- 90576 Pears, Canned. Passed.
 80575 Peaches, Canned. Passed.
 20865 Peaches, Canned. Retailer: Morns & Myers, Topeka, Kan. Illegal. Labeled as "Lemon Cling Peaches," guaranteed finest quality. Can was swelled and fruit decomposed. Tin, 401 mg. per kilo. Adulterated.
 20864 Pears, Canned. Passed.
 20863 Cherries. Retailer: Morns & Myers, Topeka, Kan. Illegal. Label, "Wawona California Black Cherries." Found to be swelled, fermented, fruit poor; tin, 505 mg. per kilogram. Adulterated.
 20862 Cherries, Canned. Retailer: Morns & Myers, Topeka, Kan. Illegal. Label, "Wawona California White Cherries." Found to be swelled and adulterated.
 20861 Apricots, Canned. Retailer: Morns & Myers, Topeka, Kan. Illegal. Guaranteed first quality. Found to be swelled and adulterated.

OLIVE OIL.

- 20720b Sweet Oil. Passed.
 20879 Sweet Oil. Passed.
 20889 Sweet Oil. Passed.

PICKLES.

- 90542 "High Grade Spiced Pickles." Manufacturer: Anderson Canning Co., Keokuk, Iowa. Retailer: E. E. Plank, Lawrence, Kan. Illegal. Old and decomposed. Adulterated.

SACCHARINE PRODUCTS.

- 90567 Sorghum. Passed.
 90566 Sorghum and Corn Syrup. Passed.
 60001 Honey. Passed.
 90121a Maple Syrup. Passed.
 70287 Powdered Sugar. Passed.
 70886 Powdered Sugar. Manufacturer: Loose-Wiles, Kansas City, Mo. Retailer: Wm. Alsup, Fort Scott, Kan. Illegal. Claimed to contain 2 per cent corn starch. Found to contain 2.54 per cent corn starch. Misbranded.
 100001 Maple Sugar. Passed.

VINEGAR.

- 60009 Vinegar. Passed.
 60010 Vinegar. Passed.
 60011 Vinegar. Passed.
 60034 Vinegar. Manufacturer: Monarch Vinegar Co., Kansas City, Kan. Illegal. "Tru Blue Brand Pure Cider Vinegar." Acidity found to be 3.85 per cent. Below standard.
 60035 "Tru Blue Pure Sugar and Distilled Vinegar." Manufacturer: Monarch Vinegar Co., Kansas City, Kan. Illegal. Acidity found to be 3.53 per cent. Below standard.
 70384 Vinegar. Passed.

TOMATOES.

- 60031 Tomatoes, Canned. Passed.
 60032 Tomatoes, Canned. Passed.
 70361 "Old Reliable." Manufacturer: Lord-Mott Co., Baltimore, Md. Retailer: G. T. Metcalf, Elk City, Kan. Illegal. Contents claimed to be 1 lb. 14 oz. or over. Adulterated in that water has been substituted in part.
 70362 Tomatoes, Canned. Passed.
 70863 Tomatoes, Canned. Manufacturer: A. L. Brewer Canning Co., Ogden, Utah. Retailer: R. F. Clark, Elk City, Kan. Illegal. Claimed to contain 28 oz. Adulterated in that water has been substituted in part.
 70364 Tomatoes. Passed.
 70365 Tomatoes. Passed.
 70366 Tomatoes. Passed.
 70367 Tomatoes. Passed.
 70368 Tomatoes. Passed.
 70369 Tomatoes. Passed.
 70370 Tomatoes. Passed.
 70371 Tomatoes. Passed.
 70372 Tomatoes. Passed.
 70373 Tomatoes. Passed.

- 70374 Tomatoes. Passed.
 70375 Tomatoes. Passed.
 70376 Tomatoes. Passed.
 70377 Tomatoes. Passed.
 70378 "St. Lawrence" Brand. Manufacturer: Medina Canning Co., Medina, N. Y.
 Retailer: M. J. Paul, Independence, Kan. Illegal. Adulterated in that
 water has been substituted in part.
 70379 "Wilson" Brand. Manufacturer: Crystal Springs Canneries, Rogersville, Mo.
 Retailer: R. W. Willary, Independence, Kan. Illegal. Label shows large
 picture of tomato, and claimed to be packed by hand. Adulterated in that
 water has been substituted in part.
 70380 Tomatoes, Canned. Passed.

MISCELLANEOUS.

- 3252e Butter (unofficial). Illegal. Rancid.
 3920a Chicken Feed. Illegal. Sent in by Wm. McCoy, Chautauqua, Kan., who said
 feed killed his chickens instantly. Arsenic present by Guitzeit and Marsh
 tests.
 9868a Meat (bologna). From Frank Huber, Formoso, Kan. Suspected of having
 caused ptomaine poisoning. Ptomaine not detected.
 60002 Hypolite's Snow Mellow. Claimed that it would make icings, fillings and
 meringues without eggs or cooking. Found to be a mixture of about 40
 per cent gelatin.
 60003 Bayle Horse Radish Cream. Illegal. Labeled as being a condiment for meat.
 Found to be a compound of ground mustard, grated horse radish and
 vinegar. Misbranded.
 70213 Canning Compound, 'Mrs. Price's. Manufacturer: Price Compound Co., Minne-
 apolis, Minn. Label says it may be used in anything that is liable to fer-
 ment, and insures best results. Found to be a mixture of borax and boric
 acid.
 80405 Skimmed Milk Powder. Passed.
 90557 Tartaric Acid. Passed.
 90582 Tomato Catsup. Manufacturer: Harbauer Co., Toledo, Ohio. Label specifies
 .1 of 1 per cent benzoate of soda. Passed as to color and preservation.
 Thirty per cent of fields in one sample showed molds.
 90592 Snow Mellow. Manufacturer: Hipolite Co., St. Louis, Mo. Retailer: W. R.
 Hunt, Garnett, Kan. Illegal. Saponin present by hæmolysis test. Adul-
 terated.
 100000 Graham Flour. Passed.
 60038 Celery Relish. Passed.
 60040 Catsup. Passed.
 70401 Purity Rice. Manufacturer: American Rice & Cereal Co. Retailer: J. M.
 Novet, Fort Scott, Kan. Illegal. Labeled as "uncoated natural and un-
 polished grain." Found to be polished. Misbranded.
 70401a Rice. Labeled as "coated with glucose and talc." Found to be polished.

E. H. S. BAILEY, Ph. D., *Chemist.*
 W. S. LONG, *Analyst.*

The Prevalence of Diphtheria.

During the month of October there were reported to this office 401 cases of diphtheria. Of this number 375, or 94 per cent, were under 20 years of age. Of the total number, 270, or 67½ per cent, were children of school age, all of whom were attending school. The mortality toll, in this number of cases, has not yet been returned, and our total number of cases is yet incomplete. However, this number of cases should be viewed with a great amount of uneasiness, and physicians, householders, and school boards are urged to give the present situation marked attention. Undoubtedly the present number of cases, which has arisen since the beginning of the school year, has been due to the failure to recognize as diphtheria

some apparently simple cases of sore throat, and emphasizes more strongly than ever the need of some provision for a complete routine physical inspection of school children, if we are ever to make any headway in the control of communicable disease.

It is to be borne in mind that diphtheria may exist in any degree of severity, from a simple sore throat or tonsilitis, scarcely noticeable, to that of the most malignant type. The slightest sore throat should not be neglected, especially when diphtheria exists in the vicinity, and particularly if there is any probability, or even possibility, of there having been exposure to the infection of the disease. The month's experience has proven that many so-called cases of tonsilitis and pharyngitis are, upon bacteriological examination, found to be diphtheria.

The school room is an open field for infection, and a single infected pupil may communicate the disease to the extent of starting an epidemic. The avenues of infection are many—*using the same drinking cup*, exchanging pencils, books, chewing gum, kissing, and other practices.

No child who has a sore throat of any kind should be allowed to attend school, and whenever diphtheria is present in the town or locality, the mildest form of sore throat should be looked upon with suspicion. It would be better to call a physician in these cases if there is any reason to believe that the disease is diphtheria, and if no physician is in attendance, the teacher should notify the board of health immediately.

We wish to call the attention of school boards and of local boards of health to the following suggestions:

First, *the case must be reported immediately* to the nearest local health officer.

Second, the premises, or such part of them as may be necessary, must be conspicuously placarded in conformity to section 1 of the quarantine law.

Third, all cases must be promptly and thoroughly isolated. This order must be enforced, for origin of every case should be investigated with the view to restricting the spread of the disease.

Fourth, no person or family in quarantine should be allowed to suffer for want of attendance or supplies.

Fifth, members of boards of education and teachers must be notified that children from infected premises are prohibited

from attending school, and all teachers are requested to report promptly to the board in case of sore throat among pupils.

Sixth, public funerals of persons dead from diphtheria are strictly prohibited.

Seventh, premises, clothing, and all other articles liable to be infected, must be thoroughly disinfected, before quarantine is released and before they may be used by other persons.

There is probably no disease of which we have a better scientific knowledge than that of diphtheria. We know that the disease is due to a specific infective germ, which is transmitted in the secretions of the nose, throat, and mouth, from which persons and things become infected. The disease is propagated in the body and is spread from person to person through persons or things, either directly or indirectly. The germs may be carried in the throat or nose for two or three weeks, and sometimes longer, after the person appears to be entirely well. Likewise other members of the family or the nurse may have an infected throat without contracting the disease and in this way act as unconscious carriers of it. This will explain to many people its apparently mysterious appearance in many communities, giving rise to the belief that the disease is one of spontaneous origin or due to atmospheric conditions.

The practice of requiring patients who have had diphtheria to be held in quarantine a certain number of days or weeks without respect to the type of the disease or other considerations, and in some instances allowing the release of the patient before the throat is free from the germs of the disease, is unscientific. In other cases, the patient is held in isolation, with attendant expenses, etc., longer than necessary.

We therefore recommend and strongly urge that bacteriological examinations be required for release purposes, commencing the examination a week or ten days after the patient is convalescent and apparently free from the disease, and that two negative results be required from swabs taken on successive days. In the event that this method of determining the time when a patient may be safely released from quarantine can not be carried out, the case should be held for at least two weeks after all symptoms of the disease have disappeared.

No child shall be permitted to attend school while any member of the household to which such child belongs is ill with

diphtheria, or during the period of two weeks after the death, recovery, or removal of such person.

All cases clinically appearing to be diphtheria should be treated as such from the first. In cases of doubt the rule should be to quarantine pending a diagnosis. It not infrequently happens that a microscopic examination is necessary to determine whether certain inflammatory conditions of the throat are diphtheria or not. To aid the physician and the health officer in this direction, the State Board of Health is prepared, through its bacteriologist, to make examinations of such specimens as are sent for diagnostic purposes, and to determine when patients should be released from quarantine. Mailing-tubes will be furnished upon application. The examinations are made free of charge.

The value of antitoxin in the treatment of cases has been so definitely proven that it seems unnecessary for us to urge its use, both in treatment of cases and in immunizing individuals who have been exposed to the disease. That no one may suffer from lack of this beneficent remedy, the State Board of Health is further prepared to furnish antitoxin, *free of charge*, to all those individuals who are unable to pay for same. Almost every town in the state of Kansas has some drug store which acts as the local distributing agent. For further information on this subject we have prepared a special bulletin on diphtheria, which will be sent on request. Write for it.

Our Knowledge of Cancer.

It is a curious trait of human psychology that while we accept with thanks a caution against slippery ice, a racing automobile, an ocean swim, and many hazards well known to involve mortal risk, custom and only custom rules against attentions to the early signs of cancer. It is therefore the purpose and earnest endeavor of the American Society for the Control of Cancer, and all who are engaged in the campaign against malignant disease, to modernize custom in this respect and to establish a premium on that wary intelligence which will permit an educated man or woman to recognize the approach of danger and take the saving steps in time. Dr. Alfred Russell Wallace once said that the nineteenth century had done more than all previous time in the pursuit of knowledge essen-

tial to human welfare and had done less than any other time to make that knowledge available for human needs. The twentieth century begins with far more deliberate attention to this need. Intelligent people everywhere, and especially in America, are more inclined to apply the standard of utility to the products of science. In choosing among the lines of scientific endeavor we ask and demand that their relation to human welfare should be prominently considered.

Not long ago an eminent association of specialists in cancer research publicly stated its belief that the new and old knowledge of this disease is not effectively employed and that it is not necessary to know all about the nature and causes of cancer in order to limit its mortality. These scientists, before turning back to their laboratories to delve deeper into the mysteries of malignant disease, did not fail to discharge their immediate responsibility to the cause of human welfare. With whatever influence they possessed they urged the need of a country-wide effort to disseminate the present knowledge of cancer both in the medical profession and among the people generally. This call was characterized by a tacit assurance to medical and lay enthusiasts that we are not about to witness the miracle of a universal cure for advanced cancer but may accomplish almost as much through prevention and through early diagnosis and treatment. The society subsequently organized to carry on this campaign believes that every man and woman should be acquainted with the early signs of preventable and curable cancer and that this knowledge when fully disseminated will very greatly reduce the number of deaths and the number of advanced cases.

There is much about cancer that is obscure. We do not know why the rebellious tissue cells grow wild and destroy their host. We may never know. Neither do we know the cause of gravitation or chemical affinity. These are ultimate facts about nature that are inaccessible to solution, but this ignorance does not prevent us from making considerable use of gravity and chemistry. What we do know about cancer are the conditions leading up to it, and the proper use of this knowledge by the individual will very largely protect him. This knowledge is a very small part of the subject but it is sufficient for the present to accomplish great results.

The fact of the greatest practical importance in our present knowledge of cancer is that the disease in its early stages is purely local and can be successfully removed from the system by surgical means. In the second place we know that irritation in many different ways plays a most important part in the development of the various forms of cancer. This knowledge gives an important direction of efforts toward prevention and cure. The sources of constant irritation to any part of the body should be removed.

In external cancer there is something to be seen or felt, such as a wart, a mole, a lump or scab, or an unhealed wound or sore. Pain is rarely present. Cancer inside the body is often recognized by symptoms before a lump can be seen or felt. Continuing indigestion, with loss of weight and change of color, is especially suspicious. Persistent abnormal discharge should arouse suspicion of cancer, particularly if the discharge is bloody. The early and hopeful stages of cancer are usually painless.

Knowledge of cancer is truly the power to save life. If all patients would seek examination and competent advice immediately on the appearance of signs suggesting cancer and would submit to the simple and certain operation which is sufficient at that stage to remove the disease, the number of cures would be enormously increased. Alert intelligence and courage replacing present ignorance and fear would save the majority of sufferers from cancer.

Foot-and-Mouth Disease.

In view of the recent outbreak of foot-and-mouth disease in the Mississippi valley, the most extensive as yet in the United States, an account, taken from *The Journal of the American Medical Association*, of the principal features of the disease may be of interest. It is an acute, highly infectious disease, which occurs chiefly in cattle, sheep, goats and swine, though other animals, such as the horse and dog, as well as certain wild animals, are attacked also, and it may affect human beings. In animals it is characterized especially by an eruption in the mouth and on the feet, in some species more in the mouth, in others more on the feet. In cattle the incubation period averages from three to five days, whereupon a moderate fever, with loss of appetite

and other general symptoms, sets in. In two or three days small blisters appear on the lining of the mouth, and now the fever usually subsides. At the same time one or more feet may show tenderness and swelling of the skin, soon blisters form here also, and the animal goes lame. In the mouth the blisters may reach half an inch or more in diameter, but usually they are smaller; the contents, at first clear, become turbid, and as the covering bursts, small painful raw spots are produced which either heal quite promptly or turn into ulcers that heal more slowly. Usually the milk is altered and reduced in quantity; blisters and ulcers may form on the udder. There is marked loss of weight, as the animals do not eat because of the pain. In this, the ordinary form, in which the death rate is very small except among the young, the symptoms fade away in from ten to twenty days or so, except when local infections delay recovery; but there are also severe forms with extensive infection which frequently end in sudden death. In such severe cases ulcers are found in the stomach and intestines. In sheep and swine, lesions of the feet predominate.

The cause of the disease is present in the contents of the vesicles, the discharges from the ulcers, the saliva, the milk, the urine and feces, but as a rule not after the tenth day. It is stated that animals having had the disease may carry the virus for months. Any susceptible species may infect any other susceptible species. Infection occurs not only through direct contact, but also indirectly, as the virus retains its virulence for some little time, at least outside the body. Contamination of fodder, of stalls, of feeding and drinking troughs, of milk and milk products and of the hands and clothes of drovers serves to spread the disease, which often travels over wide stretches of country with remarkable rapidity, as shown by the present outbreak. As from 25 to 50 per cent of the cattle exposed to infection may become sick, there results great loss from fall in production of milk, from reduction of vitality and fecundity, and from deaths, as well as on account of the measures adopted to stamp out the disease.

The immunity produced by an attack seems to be feeble, as animals are said to suffer sometimes more than one attack within a short time. So far no practical method of protective inoculation has been developed.

Our knowledge of the cause of foot-and-mouth disease is limited to the fact that it concerns a filterable virus, as yet invisible and uncultivable. It was in 1897 that Löffler and Frosch made their classical experiment, showing that the disease is caused by a living virus that passes filters which do not permit bacteria to go through, an experiment that has served as a model for all the subsequent work on the many other forms of filterable virus recognized since then. Foot-and-mouth virus may remain active for months if kept cool and moist, but is destroyed rapidly by drying, by heat at 60 C. (140 F.) and above, by formaldehyde and by carbolic acid. The wide range of virulence of this virus among animal species has been indicated, and, as stated, the disease may affect human beings, especially children, being transmitted by milk from diseased cows (experimentally verified) and by butter and cheese made from such milk, as well as through wounds and in other ways. While the course usually is favorable, an epidemic described by Siegel had a mortality of 8 per cent. The manifestations are fever, digestive disturbances and eruption on the lips and sometimes on the skin. Where there is danger of contamination of the milk with the foot-and-mouth virus, thorough pasteurization of all milk and milk products is doubly indicated.

Typhoid Epidemic.

A typhoid epidemic of ninety-three cases in the city of Hanford, Cal., is reported by W. A. Sawyer, Berkeley, Cal., in a recent issue of *The Journal of the American Medical Association*. All the cases could be traced to a church dinner, and the infection came from a typhoid carrier among those who prepared and served the food, a woman who did not know that she had had typhoid. The history is interesting. The infection was conveyed in a dish of Spanish spaghetti. Only those partaking of it were primarily affected and only one secondary case was reported, but this was apparently not positively traced to this source. Sawyer sums up his conclusions as follows: "The source of infection in the ninety-three cases of typhoid fever in the Hanford epidemic was a typhoid carrier who prepared food served at a public dinner. The vehicle of the infection was a large pan of Spanish spaghetti prepared

by the carrier. This dish was baked after it had been infected, but this baking was shown by laboratory experiments to have developed the bacteria instead of sterilizing the food. Certain customary methods of cooking are thus shown to be inadequate as a protection against infection. The incubation period in the majority of the cases in this epidemic of typhoid fever proved to be shorter than the time usually regarded as the minimum. The first case developed three days after infection. More cases showed their first definite symptoms six days after the infected food was eaten than on any other one day. The ways in which a carrier may transmit infection are so varied and so numerous that attempts at the control of mere channels of infection will not offer sufficient protection. Those who were suspicious of the raw salad at the dinner in Hanford and ate the freshly baked spaghetti turned from a safe dish to one which was heavily infected. The best protection against carriers will come through thorough investigation of the source of infection in every case of typhoid fever. When carriers are discovered, they can be advised and controlled. Until there are more trained epidemiologists on a full-time basis among state and local health officials, the danger from carriers will not be noticeably diminished, and the individual will find in anti-typhoid vaccine his best protection against infection from carriers."

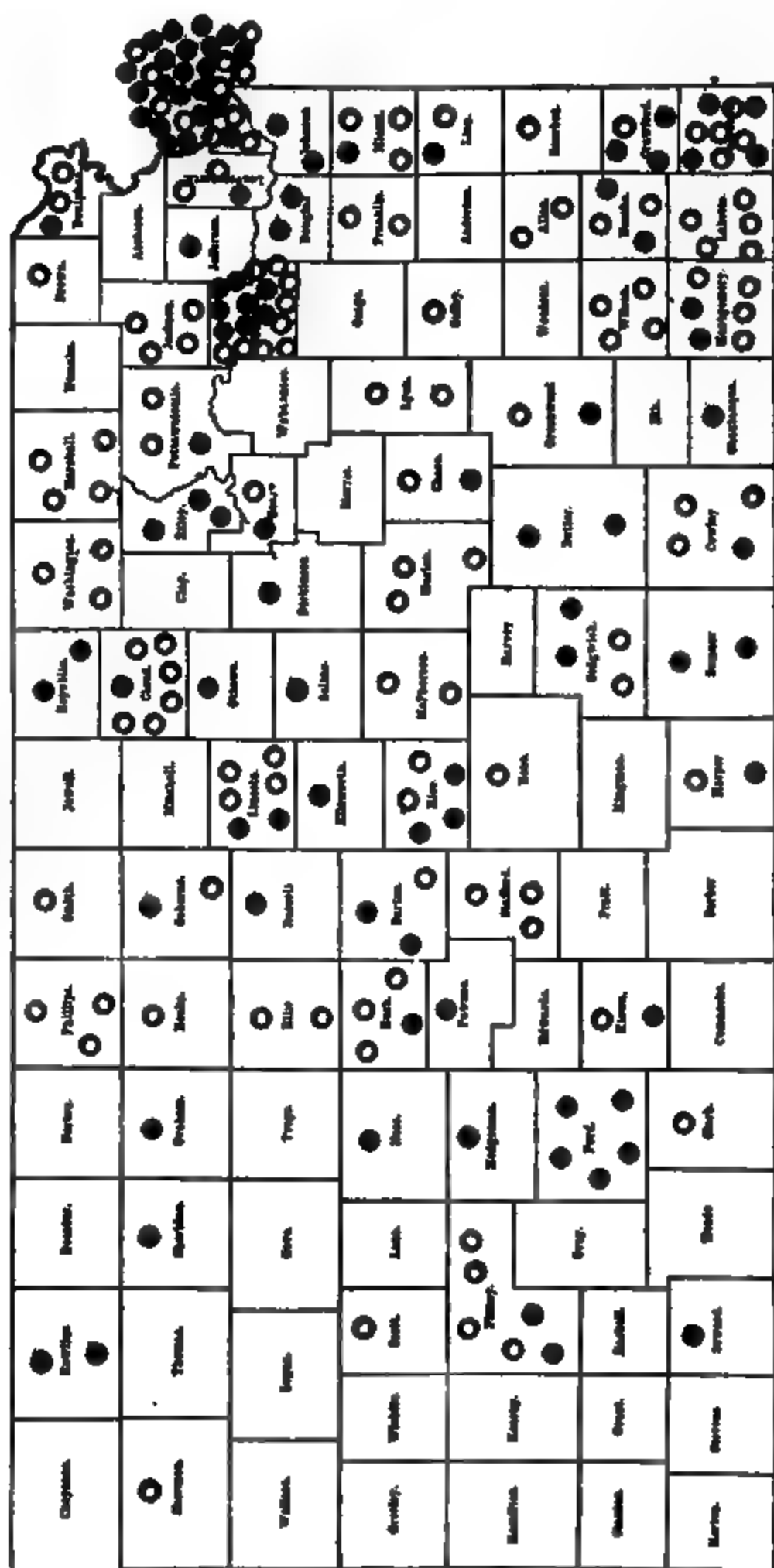
The Annual Toll from Measles and Whooping Cough.

The deaths from measles and whooping cough in Kansas in 1913, as shown on the accompanying cut, are sufficiently numerous and widespread over the state to challenge the attention of the most careless parent, physician or health officer. All those who have been accustomed to make light of such "trifling" diseases as measles and whooping cough should pause long enough to count the circles and black dots on the cut, and realize that each one represents a newly-made grave and a short coffin, the making of and the sale of each might have been prevented!

How many of these deaths may have been due to needless exposure by parents who labor under the delusion that "children must sooner or later have these diseases, therefore the earlier the better," or how many were the direct result of failure to

Measles and Whooping Cough

KANSAS



Map showing distribution of deaths in 1913

report the disease by the attending physician, with attendant failure to quarantine and thereby wantonly exposing others to the disease, may never be known; but the fact that in all probability both of these causes operated in the matter can scarcely be gainsaid by any one.

In 1913 there were but four deaths from smallpox, concerning which disease people become very much alarmed and great sums of money are expended for quarantine and disinfection purposes, but during the same year there were 102 deaths from measles and 122 deaths from whooping cough.

In all probability, too, some of the cases from whooping cough or measles might have been saved a fatal termination if a skillful physician had been promptly called and the proper treatment instituted. Every case of whooping cough or measles should be attended by a physician. It is, unfortunately, the custom of many mothers at present to attempt to treat these diseases without the aid of a physician, because the disease is considered a "trifling" one, or because the disease seems to be mild in character; they do not realize the danger which may result from complications which the mother can not recognize. It should be known that not only the suffering of the child can be much reduced, the course of the disease somewhat modified or shortened, and dangers from complications lessened, but the actual possibility of death very much diminished by the watchful care of an intelligent physician.

Parents should never voluntarily expose a child to whooping cough "in order that it may have the disease while young." If a child does not have whooping cough before five years of age, its chances of taking the disease are very greatly reduced. Moreover, it should be remembered that the chances of death under five years of age are greater by almost fifty to one than they are in those over that age.

The prevention of the spread of measles is more difficult as it is now definitely determined that the disease is intensely contagious in the preëruptive stage, but in the presence of an epidemic, the ordinary symptoms of a cold with red and watery eyes should warn people of the possible appearance of measles, and such cases should be isolated until it is fully determined the case is not that of measles. This is particularly important in the case of school children.

In all likelihood the prevalence of whooping cough and

measles will continue to be widespread in Kansas until such time as the legislature provides for the physical supervision of school children, for it is known that it is through such supervision these diseases may be detected early enough to prevent the infection of large numbers of other school children. May it not be said, therefore, that the black dots and the circles on the Kansas map are a mute but forceful appeal for the physical supervision of school children?

Adenoids.

Teachers are just beginning to realize that mouth-breathers are "backward" in their studies, and those who have been sufficiently awake to note this relation are, as a rule, willing to subscribe to the dictum that "simplified breathing is of more importance than simplified spelling." Juvenile courts are, also, beginning to note that there seems to be in many instances a connection between the inability to breathe through the nose and the inability to see clearly the difference between right and wrong. Physical examination of a large number of juvenile offenders and truants reveals the fact that a great majority of them suffer from adenoids and enlarged tonsils.

A letter recently received by a certain county superintendent of public schools in Kansas shows, also, that parents are beginning to suspect such relationship. The letter is given herewith, omitting names, showing that the mother had a strong suspicion that in some manner adenoids might be the cause of her son's waywardness:

OCTOBER 14, 1914.

County Superintendent:

DEAR SIR—I write you in regard to (my) son, 12 years old. I can not do anything with him; if corrected he fights, and I am at a loss what to do; if I send him to the store, he charges the goods and keeps the money; if I send him to school, he often does n't get home until six o'clock at night, and one night after eight. He learns nothing at school; chews, smokes, and, I hear, carries a revolver. I think if I could get him in Reformatory a month or two, then let him out on good behavior, it might help him. He is going to ruin here. Will you please help me to save him?

Yours respectfully, _____.

I forgot to mention my boy has adenoid growths in throat and nose.

The moral to be drawn from this pathetic appeal is that the physical supervision of school children will result not only in the removal of many of the handicaps to mental growth, but will also in many cases remove the physical defects that make for moral delinquency.

Liability for Damages Results from Selling or Serving Unwholesome Food.

The Kansas supreme court has recently handed down two important decisions, which have a direct bearing on the matter of "pure foods."

In one instance (No. 18,686) tainted meat was served to a hired laborer, who as a result became sick. He recovered damages in the lower court, which the supreme court affirmed.

In the other instance (No. 19,009) a manufacturer of pies sold to a retail merchant a pie that was, or became, so poisonous as to cause the death of the consumer, according to the evidence given. In like manner, the supreme court upheld the lower court in awarding damages.

The syllabi by the court and an abstract of their decisions follow:

No. 18,686.

J. D. MALONE, Appellee, v. HENRY D. JONES, DAVID H. JONES, and MRS. DAVID H. JONES, Appellants.

Appeal from Smith county. Affirmed.

SYLLABUS BY THE COURT.

Benson, J.

1. An answer contained an admission that the plaintiff was employed by "the defendants," but the plaintiff testified that he was employed by only one of them, and there was no evidence to the contrary. The defendants asked leave to amend their answer to conform to the proof. The amendment should have been allowed, but in the situation disclosed by the evidence, the ruling was not prejudicial.
2. A son living with his father and mother on his father's farm was carrying on the farming operations. He arranged with his parents to board his hands. The plaintiff was employed by him as a laborer for stipulated wages and board. The father purchased and the mother cooked and served meat which when put upon the table was tainted and unwholesome. The evidence tended to show that the bad condition was apparent while the meat was cooking. The plaintiff became sick by partaking of it. Neither the father nor son knew that the meat was tainted until it was on the table. It is held that the son is liable for negligence in providing unwholesome food, and that the father and mother, having jointly undertaken to provide the board, are equally liable for negligently cooking and serving it.

All the justices concurring.

(Abstract from Court's Decision.)

. . . David Jones and his wife provided and prepared food for those sitting at their table, and owed to them the duty at least to exercise reasonable care in this service, whether the persons for whom the food was intended were their employees or not.

It was not necessary to the liability of David Jones that he should actively participate in cooking or serving the meat. He was engaged

jointly with his wife in furnishing the board, and is equally liable with her for negligent performance of the duty so undertaken. As liability does not depend on employment, it is immaterial whether the plaintiff was employed by Henry Jones alone or by all the defendants. It follows that the rejection of the proposed amendment was not prejudicial.

Objections were made to the instructions because they did not distinguish the particular ground upon which each defendant might be bound. The observations already made sufficiently answer these objections. As the jury found that the tainted meat was negligently cooked and served, each defendant was liable for the resulting injury in the circumstances shown. For the same reason, there was no error in overruling the several demurrers to the plaintiff's evidence.

No. 19,009.

ELIZABETH PARKS *et al.*, Appellees, v. C. C. YOST PIE COMPANY *et al.*, Appellants.

Appeal from Wyandotte county, Division No. 2. Affirmed.

SYLLABUS BY THE COURT.

Smith, J.

1. A dealer who sells human food for immediate consumption does so under an implied representation and guarantee that it is wholesome for the purpose for which it is sold.
2. A manufacturer who prepares food for human consumption and places it in the hands of a dealer for sale is responsible in damages to the widow of a consumer who procures such food from the dealer and loses his life by partaking of such food.

All the justices concurring.

(Abstract from Court's Decision.)

The degree of care required of a manufacturer or dealer in human food for immediate consumption is much greater by reason of the fearful consequences which may result from what would be slight negligence in manufacturing or selling food for animals. In the latter a higher degree of care should be required than in manufacturing or selling ordinary articles of commerce. A manufacturer or dealer who puts human food upon the market for sale or for immediate consumption does so upon an implied representation that it is wholesome for human consumption. Practically he must know it is fit or take the consequences if it proves destructive. (Tomlinson v. Armour & Co., 5 N. J. L. 748, 70 Atl. 314, 19 L. R. A., n. s., 923.)

The usual rule by which the existence or absence of negligence is to be determined in a particular case is whether the care exercised was commensurate with the danger reasonably to be apprehended, or, as the trial court phrased it, "Ordinary care in a given case is to be determined by the circumstances and facts of the particular case and is (must be) commensurate with the danger and the possible and probable results of a lack of care." (See Malone v. Jones, 91 Kan. 815, 139 Pac. 387; 92 Kan. 708, 142 Pac. 274.)

From these decisions it is apparent that due diligence must be exercised in the handling of food products to prevent de-

composition or contamination of such a character as to be injurious to health.

It is, also, an ominous warning to those food manufacturers who deliberately use decomposed or tainted food, in whole or in part, in their manufactured products, or who reprocess partly decomposed food and put it on the market for human consumption.

Furthermore, it establishes a precedent for the claim of damages for any injury resulting from the use of materials unfit for food, or that has become unfit or unwholesome through lack of proper care and diligence.

Unwrapped Bread.

The increasing displacement in this country of home-made bread by the bakery loaf has been accompanied by a growing attention to the sanitary aspects of the baking industry. Attempts, in large part successful, have been made to improve the conditions under which bread is prepared in city bakeries. It is evident, however, that the conditions of distribution as well as of preparation need to be safeguarded. We have already commented on the possible dangers of bacterial contamination of bread through handling by typhoid or other disease carriers. Recent studies have added to the evidence we surveyed at that time. In a paper by Jacobs, LeClerc and Mason of the United States Department of Agriculture it is shown that the surface of wrapped bread purchased from retail markets is more nearly free from organisms than unwrapped bread obtained at the same time from the same sources; *Bacillus coli* was found more than eight times as frequently in the unwrapped loaves. This result is substantially the same as that obtained by Katherine Howell, on which our previous discussion of this subject was based. Curiously enough, these later writers make no reference to Miss Howell's work. With respect to the effect of wrapping on the palatability and general quality of bread, the conclusions of Jacobs, LeClerc and Mason are generally favorable. They state that, while bread as it comes from the oven has a sterile crust, it may become contaminated with organisms while cooling in the laboratory, and therefore should be wrapped as soon as it is sufficiently cooled, a period which they fix at approximately

three hours. In their discussion, however, these writers do not sufficiently discriminate between the sanitary importance of organisms such as molds or harmless air bacteria, and definite pathogenic microbes that may be smeared on the bread from infected hands. Protection of the bread from contact with fingers or mouth spray is much more essential than protection from ordinary dust. The fact that "bread which was cooled only one hour before wrapping retained heat and moisture enough to favor the growth of certain organisms" does not necessarily mean that a higher degree of safety is obtained if wrapping is delayed for two hours longer, and the authors would probably not wish such a conclusion to be drawn from their work. One practical point brought out in this paper deserves especial mention, namely, that unwrapped bread becomes stale noticeably sooner than wrapped bread and that the gain to the baker by wrapping undoubtedly more than balances the extra cost. Of great economic importance—when we consider bread, economy is important—is the reduction in weight of the wrapped loaf as compared with the unwrapped. A conference with a number of bakers showed that the cost of wrapping is from 4 to 5 per cent. On the other hand, the reduction in weight of wrapped loaves varied from 7.5 to 14 per cent. The consumer can be expected to bear at least half the cost of wrapping, or 3 per cent, but he should not be compelled to pay all of it, including a profit. A similar, but less comprehensive, study made by the research laboratory of the New York city health department has also been reported recently, and this also confirms the results of Miss Howell respecting the bacterial superiority of wrapped loaves. We may consider it as established, says *The Journal of the American Medical Association*, that the distribution of unwrapped bread offers manifold possibilities of infection, and that the use of wrapped bread not only offers some safeguard against disease transmission, but entails no economical disadvantage.

Teaching Sex Hygiene in Schools.

There has been considerable discussion on the question of teaching sex hygiene in the public schools. The advantage of increased knowledge for the children, as well as the practical difficulties of presenting this subject properly, have been commented on from various points of view. There has been little effort, however, to secure an expression of opinion from those vitally interested, namely, the parents and the children themselves. For this reason, the report of the Bureau of Research of the Upper Peninsula (Michigan) Educational Association, recently issued, is of interest. This bureau was organized to make a direct study of the schools of the Upper Peninsula of Michigan, their equipment and their methods and material for study. It is at present endeavoring to discover the points of strength and weakness of the schools, as judged by the parents and others interested in them. The report just issued is divided into four sections: moral education, physical education, industrial education, and general. The basis for the report is the individual opinions of 317 representative citizens. Under the first head, among many other subjects discussed, the question was asked of parents, "Do you believe that sex hygiene should be taught in the schools?" To this question, ninety-two replied "yes," while 175 opposed such instruction; six made qualified replies. Commenting on these answers, the report says that the replies indicate that patrons of schools are not ready as yet to have sex hygiene taught in the schools. "Doubtless but few teachers are qualified to teach the subject well," says the report, "and to teach it poorly would be much worse than not to teach it at all." The bureau also endeavored to get the point of view of the pupil. At Houghton, two lectures on sex hygiene were given to boys and two to girls. Some time after the lectures, the boys and girls were segregated and were asked: "Did you learn anything of value at the last lecture on sex hygiene?" Ninety boys stated that they had learned something of value and eight that they had not, while fifty-four girls regarded the lecture as of value and twenty did not. When asked: "Do you favor another lecture?" eighty-five boys were in favor of further instruction and thirteen were opposed to it, while forty-four girls were in favor and thirty were opposed to the proposition. This report, says *The Journal of the American Medical Association*, emphasizes the points

which have been previously brought out; until we know what should be taught pupils at different ages, until we have formulated a definite graded course of instruction and have trained teachers to give this instruction, the proposition for teaching sex hygiene in the public schools should be approached with the utmost caution. In no case should an effort be made to force such instruction on the pupils or on the community. When the parents of children are convinced, by a large majority, of the advisability of such instruction, it should be provided. Premature efforts to place such subjects on the school curriculum in advance of public opinion can only cause misunderstanding and trouble.

Getting Ready for Winter.

Outdoor winter sleeping has always suffered at the hands of people who unreasonably stay indoors during the summer and with the coming of cold weather pull their bed either onto the porch or into a corner of the room between two open windows with a strong cross current. Just now is none too soon to begin inuring oneself to the outdoor habit. Twelve months ago a child of three months began taking its nap outdoors. Cold weather came and its mother brought it inside. It objected to indoor sleeping, however, and so was given an open porch, where it had its nap regularly on fair days and stormy, except when the rain blew on it. It was not long after frost and snow came before the cheeks of the once fragile child began to glow; its skin became clear, its eyes shone with the luster of health, and it became vigorous and resistant to conditions that to the ordinary child spell cold and sore throat, and often diphtheria.

What is good for babies is good for adults. It is folly to expect the system to be able to resist the shock of sleeping outdoors in zero weather without training. The situation is parallel to that of swimmers. Any day last winter one might have seen on a certain Chicago beach a group of women enjoying a dip in Lake Michigan. The cold bath was not a shock to the nervous system; the vitality of the swimmers was not lowered, and they did not suffer from the cold in any way. The bath was possible because they had begun in the summer and without skipping a day had carried their visit to the beach into and through the winter.

And by the way, too, now is the time to begin preparing for the cold spray during the winter. Even in summer the cold spray is not a pleasure to one unaccustomed to it, and what must it be if begun in winter? One may, however, begin taking his cold spray in the summer, and by continuing it without missing a morning into the cold months it will not be an ordeal to be dreaded, but a pleasure. One who does not know the pleasurable skin reaction that follows the cold spray, the feeling of exhilaration and buoyancy, the mental and physical stimulus that enables one to enter upon a full day's work full of "pep" and with what musicians call "attack"—an animation that sustains one throughout the day—one, we say, who has not had this delightful experience will take our advice and begin at once to plan for his winter morning spray.—*Good Health.*

Bat the Rat.

BY WALT MASON.

Oh, bat the rats, and break their slats, and hand the beasts their bitters! "No quarter" goes—destroy the foes, for they are filthy critters! Let them no more infest your store, your costly goods devouring, but run them out—put them to rout, their legions overpowering. Oh, swat the brutes that chew the fruits and gnaw the loaves and cheeses, that go their way, day after day, distributing diseases. If you, I think, took pen and ink, and figured what rats cost you, the total would knock you dumb and pretty nearly frost you. It's bad enough to see them stuff themselves with costly plunder, to know they dwell in hole and cell all 'round the store and under; it's bad enough, it's surely tough to have to feed and lodge them, and see them soar around the store so thick you can not dodge them; but worse yet is this, you bet—the fame those critters lend you; for folk will score your store, and no one will defend you. "In yonder store I saw a score of rats," exclaimed some matron; "they were so thick they made me sick"—and thus you lose a patron.

So, bat the rats with guns or cats, or anything that's handy, with lance or sword, or strip of board, sandbag or poisoned candy. From South to North let us go forth, attired in batting garments, from East to West, let's work with zest, and bat the dirty varmints. Let's bat the rat, the lean, the fat, the old one and the ratling; the gray, the brown, we'll hammer down, and never cease our battling!

EDITOR'S NOTE.—This jingle, prepared especially for *The Modern Grocer*, emphasizing the need for a "Bat-the-Rat" campaign, was inspired by a paper read by W. G. Sherer, of Sherer-Gillett Co., Chicago, before the National Association of Food Control Authorities in convention at Portland, Maine, July, 1914.

BAT THE RAT.

BY WALT MASON.

Through weary years we swatted flies which swatted us —'t was tit for tat, and now we're asked to nobly rise, like armored knights, and bat the rat. We swatted flies at your behest, oh, tireless sanitation crank; we drove the critters galley west, and smote them hip and thigh and flank. And ever in our sad career, one hope was burning in our breast: "Autumn time will soon be here," we murmured, "and we'll then have rest. Then we may lay our swatters down, we poor exhausted, fly-specked men, and idly navigate the town and play the slot machines again." But now, the autumn time is come; the flies are mostly lying flat, by chilly evenings rendered numb, and we must start to bat the rat. It has all seasons for its own, the rodent we are asked to swat; it flourishes when blizzards moan, it is on deck when winds are hot. So we begin this endless stunt, like martyrs of an elder day, the more we bat the more we hunt, the more we'll find to slug and slay. And when we've batted till we're sore, and tears are streaming down our eyes, we'll wish we might resume once more the gentle sport of swatting flies.

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S. J. CRUMBINE, M. D., Editor.

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KANSAS
Health Almanac
For 1915.

“Good Health for Every Day of
Every Month.”

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OF THE
Kansas State Board of Health.

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FOREWORD.

ONE of the chief functions of the State Board of Health is that of education—the promulgation of accurate and reliable information concerning the cause, dissemination and prevention of disease. The medium through which such information may be given to the people of the state determines in a large measure the results that may be expected. Many years ago, that distinguished statesman, diplomat, scholar and publicist, Benjamin Franklin, published what he called “Poor Richard’s Almanac,” in which he set forth many wise aphorisms and epigrams, many of them pertaining to public health and welfare. The display of such information with the year’s calendar insured the preservation and frequent consultation of the almanac; and so keen-sighted business men were not slow to adopt the almanac as a medium for advertising their wares, chief among whom have been the “patent medicine man,” with the result of large rewards for their foresight, in ever-increasing sales.

Boards of health have recently adopted the more popular and potent forms of advertising for their wares—public-health information—the most popular and one of the most effective of which is the “health almanac.” We, therefore, present this third almanac, which we trust will be read and then hung at a convenient place in every Kansas home for future reference. Every statement made therein can be relied upon as being tested, tried and true; there is no speculation, no guessing.

The daily events in Kansas history were chronologically displayed for the first time in our first almanac, and can be relied on as accurate. Each day the daily event should be read aloud in every Kansas school, together with a health epigram; thus a useful fund of information may be gathered and stored by the future fathers and mothers of the state.

When in doubt consult the KANSAS HEALTH ALMANAC.

SMALLPOX AND CHICKEN POX.

These diseases usually occur in early months of the year. Unfortunately in many instances they occur coincidently, which makes diagnosis confusing to both laymen and physicians, with the result that a mild smallpox is mistaken for chicken pox and becomes widespread. It is for this reason that the State Board of Health has prescribed the isolation and placarding of all cases of chicken pox.

Chicken pox is usually regarded as harmless, but there is no question that it has some dangerous after-effects and causes considerable mortality from such complications as bronchopneumonia, nephritis, etc. So why take risks if you can avoid it?

Grown people do not have chicken pox. If you know of one who does, have him put under a small-pox quarantine. You may be wrong once in ten thousand, but that is pretty good odds. Smallpox in the past few years has seemingly been mild, but enough people die to make it worth while to quarantine rigidly. Besides, who wants to go through life with a repellent pock-marked face?

Vaccination prevents smallpox. Nurses and doctors have no other protection, and they do not contract the disease. Many people say they prefer smallpox to vaccination. Don't take them seriously. They never saw a case of smallpox. In the old days when they vaccinated from arm to arm, no doubt many sore arms resulted. These were due to pus and blood infections from other persons. To-day all vaccine is under federal supervision, and is free from bad effects. Properly performed, vaccination is harmless. It is better to have a scar on the arm than a disfigured countenance.

Quarantine of smallpox should be continued, but is it fair to impose the expense of it on individuals and the public when universal vaccination would stamp out the disease forever?

Think that over and ask us to mail pamphlet on "Smallpox."

1st Month.		January, 1915		31 Days.	
D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rise.
			Rise.	Set.	
1	Fri	Resolve to do it better this year.	7 16	4 50	5 04
2	Sat	Two hundred Mennonites arrive in Great Bend, 1875. . .	7 16	4 51	6 10
3	Sun	Get vaccinated.	7 16	4 52	7 17
4	Mon	State Historical Soc. library began in auditor's office, 1875.	7 17	4 53	8 24
5	Tue	Free-state legislature meets at Topeka, 1858.	7 17	4 54	9 31
6	Wed	Benjamin Franklin born, 1706 (O. S.).	7 17	4 55	10 39
7	Thu	Whole state shaken by earthquake, 1906.	7 17	4 56	11 47
8	Fri	Geo. W. Glick inaugurated first Democratic governor, 1883.	7 16	4 56	morn
9	Sat	To avoid colds, keep your feet warm and house ventilated.	7 16	4 57	0 58
10	Sun	"Legislative war"—two houses of representatives, 1893. .	7 16	4 58	2 11
11	Mon	Man, not God, fixes the death rate.	7 16	4 59	3 26
12	Tue	Most colds are "catching."	7 16	5 00	4 39
13	Wed	The neglected cold is the season's greatest danger. . .	7 15	5 01	5 47
14	Thu	You have hibernated long enough—come out!	7 15	5 02	6 46
15	Fri	Dr. Chas. Robinson elected governor, 1856.	7 15	5 03	sets
16	Sat	First school in Kansas Territory opened, 1855.	7 15	5 04	6 34
17	Sun	As the weather grows colder, take more exercise. . .	7 14	5 05	7 42
18	Mon	Nebraska, south of Platte river, seeks annexation, 1858 .	7 14	5 07	4 37
19	Tue	Lee's birthday, 1807. Paul Revere's ride, 1775. . . .	7 13	5 08	9 49
20	Wed	A light overcoat is better than a heavy cold.	7 13	5 09	10 50
21	Thu	Statue of Senator John J. Ingalls dedicated, 1905. . .	7 13	5 10	11 49
22	Fri	Gov. A. H. Reeder issued order for first census, 1856. .	7 12	5 11	morn
23	Sat	Gift of 20 acres of land for capitol accepted, 1862. . .	7 12	5 12	0 50
24	Sun	Birth of Elisabeth Simerwell, first white girl, 1835. . .	7 11	5 13	1 51
25	Mon	Many a cough ends in a coffin.	7 11	5 14	2 51
26	Tue	Overland mail reopened after Indian troubles, 1865. . .	7 10	5 15	3 49
27	Wed	W. A. Peffer elected U. S. senator by People's party, 1891.	7 09	5 16	4 46
28	Thu	Provide dust baths for the poultry.	7 00	5 18	5 37
29	Fri	Kansas admitted to the Union, 1861. Kansas Day. . .	7 08	5 19	6 21
30	Sat	Every careless consumptive infects at least four others. .	7 07	5 20	rises
31	Sun	There is less danger in vaccination than in cutting a corn.	7 06	5 21	6 11

MOON'S PHASES.

- ☉ Full Moon, 1st day, 6h. 20m., morning.
- ☾ Last Quarter, 8th day, 3h. 13m., evening.
- New Moon, 15th day, 8h. 42m., morning.
- ☾ First Quarter, 22d day, 11h. 32m., evening.
- ☉ Full Moon, 30th day, 10h. 41m., evening.

When grown people have "chickenpox," hang out the yellow flag.
The man who says he had rather have smallpox than be vaccinated
never had the smallpox.

One large pock on the arm is better than many small pocks on the face.
Ask the man who has pock marks if he was vaccinated before he had
the disease.

PNEUMONIA.

February is one of the worst months for the worst disease, pneumonia. This kills more people every year than any other human malady, not even excepting consumption. Pneumonia is a germ disease, and is caused by a small organism similar in some respects to those causing other diseases with which we are familiar.

The germs of pneumonia get into the lungs through the mouth, but not every man who has the germs in his mouth will have pneumonia. If he did, practically all of us would have the disease during the winter. It is only when the system is "run down" that the germs do their dread work. These are the things which make pneumonia flourish:

1. Excessive drinking of alcoholic liquors.
2. Unusual exposure to extreme weather.
3. Exposure of old persons or persons suffering from other diseases.
4. Living and sleeping in badly ventilated rooms.

To try to avoid it:

1. Do not drink alcoholic liquors.
2. Dress warmly but not too thickly.
3. Do not needlessly expose yourself.
4. Have abundant fresh air in your living and sleeping rooms.
5. Do not have your rooms too hot and then go into the open air unprotected by wraps.
6. If exposed to extreme or rough weather, and wet or numb, undress in a warm room, rub off with a rough towel until the skin glows, then go to bed and stay there several hours.
7. Avoid overeating and keep the bowels open.
8. Keep your feet warm and your head cool.
9. A moderate amount of brisk exercise in the out-door air daily.
10. Avoid dust and other irritating substances of the upper-air passages.

2d Month.		February, 1915	28 Days.		
D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Mon	The unventilated gas stove is a menace to health.	7 05	5 22	7 20
2	Tue	Candelmas. Ground-hog day.	7 05	5 23	8 29
3	Wed	Adenoids prevent normal mental and physical growth.	7 04	5 24	9 38
4	Thu	Smallpox raging among "unvaccinated" Kaw Indians, 1860.	7 03	5 25	10 48
5	Fri	Carrie Nation starts a temperance crusade, 1900.	7 02	5 26	morn
6	Sat	Act incorporating Lincoln College (Washburn), 1865.	7 01	5 27	0 00
7	Sun	Air your home thoroughly daily.	7 00	5 29	1 14
8	Mon	Beware of the wolves—the quack doctors.	6 59	5 30	2 27
9	Tue	Inauguration of first governor of state of Kansas, 1861.	6 58	5 31	3 36
10	Wed	Minneola named as capital of the territory in 1858.	6 57	5 32	4 38
11	Thu	The best nerve restorer—"keeping sweet."	6 56	5 33	5 27
12	Fri	Abraham Lincoln born, 1809.	6 54	5 35	6 07
13	Sat	Feed left on the teeth ferments and causes decay.	6 53	5 36	sets
14	Sun	St. Valentine's day.	6 52	5 37	6 28
15	Mon	Kansas women granted municipal suffrage, 1887.	6 51	5 38	7 34
16	Tue	The best weapon against pneumonia—high body resistance.	6 50	5 39	8 35
17	Wed	Gov. Lewelling calls out K. N. G. ("Legislative War").	6 48	5 40	9 36
18	Thu	The most valuable asset of a city—wholesome water.	6 47	5 41	10 36
19	Fri	Beware of the base deceiver—the patent-medicine man.	6 46	5 42	11 38
20	Sat	Legislature charts the St. Joe & Topeka railroad, in 1857.	6 45	5 43	morn
21	Sun	The only bad night air is last night's air.	6 44	5 44	0 40
22	Mon	George Washington born, in 1732.	6 42	5 45	1 38
23	Tue	Read the labels, else don't complain if you are "stung."	6 41	5 46	2 34
24	Wed	Have you tested your cow for tuberculosis?	6 40	5 47	3 26
25	Thu	What? 1,000 deaths from tuberculosis in Kansas annually?	6 39	5 48	4 14
26	Fri	Keep your feet warm and your head cool.	6 37	5 49	4 54
27	Sat	Wichita county-seat war reaches climax, 1857.	6 36	5 50	5 29
28	Sun	Territorial census completed, 2,501 inhabitants, 1855.	6 34	5 51	6 01

MOON'S PHASES.

- ☾ Last Quarter, 6th day, 11h. 11m., evening.
- ☾ New Moon, 13th day, 10h. 31m., evening.
- ☾ First Quarter, 21st day, 8h. 58m., evening.

An open window is better than an open grave.
Warm rooms have killed more people than ever froze to death.
A "stiff drink" makes the stomach warm but the skin cold.
A stitch in the underwear may save a stitch in the side.
Avoid patent medicines as you would a pestilence.
Thinly clad feet make for heavy colds.

WHOOPING COUGH AND MEASLES.

"Our health officer is absurd," said a mother. "He insists on Mrs. Smith keeping her baby at home because it has whooping cough. Poor woman, she wants to visit me so badly. I'm not afraid for my baby. I'd rather he'd have it now, for he is sure to take it sometime." Mrs. Smith made her visit in spite of the health officer's warning. And while her baby recovered, the other baby caught the disease and died. Poor, sad mother! Poor little baby! who had a right to live and could not protect himself from exposure.

"I remember," says a father, "when mother took we children to the neighbors' to 'catch' the measles. We got over it, though. Will Jones, who caught it from us, died. He never was robust. Sister Bess was never strong afterward, and died from consumption at sixteen. My doctor tells me that 5 per cent of children having measles later develop consumption, and you bet I don't want my children exposed to measles if I can prevent it."

Have you learned by experience, like these parents, that whooping cough and measles are dangerous diseases, or must you be convinced by similar experience?

The death toll from whooping cough in 1913 was 122; from measles, 102. This does not include those who later die from heart, kidney and lung complications, and many do. The infection in both is transmitted in secretions from the nose and throat by coughing and sneezing. The early symptoms are those of a cold. Avoid contact with people with colds.

Your health officer can't protect every one. You must help him. If you or your neighbors have either disease report to him at once. Isolate yourself from others and insist on your neighbor doing so. Tell Mrs. Smith to keep her whooping cough at home. If you are a school-board member, tell your teacher to send home every child who brings a cough or a cold to school.

Send for Bulletin on these diseases and learn more of them.

3d Month.		March, 1915		31 Days.	
D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises
			Rises.	Sets.	
1	Mon	Legislative act organizing State University, 1864.	6 33	5 52	6 13
2	Tue	Worry weakens the will and perverts physical functions.	6 32	5 53	7 23
3	Wed	Congressional act for road (Santa Fe trail), 1825.	6 30	5 54	8 34
4	Thu	Meeting of Topeka (Free-state) legislature, 1856.	6 29	5 55	9 48
5	Fri	Mercury 105 deg. above zero at Topeka, 1860.	6 27	5 56	11 05
6	Sat	Service is the coin that bears the inscription of Jehovah.	6 26	5 57	morn
7	Sun	Act creating State Board of Health approved, 1885.	6 25	5 58	0 19
8	Mon	County-seat war in Rush county, 1838.	6 23	5 59	1 29
9	Tue	Health is a normal functioning of body, mind and soul.	6 22	6 00	2 31
10	Wed	Staring worth, like cream, comes to the top.	6 20	6 01	3 24
11	Thu	Most colds are infectious.	6 19	6 02	4 07
12	Fri	Arms sent to Howard Co., account county-seat war, 1874.	6 17	6 03	4 43
13	Sat	A health secret—sleep with your windows open.	6 16	4 04	5 11
14	Sun	Masticate, insalivate, live long and be merry.	6 14	6 05	5 37
15	Mon	First salt made at Hutchinson, 1838.	6 13	6 06	sets
16	Tue	Be content—don't fret.	6 11	6 07	7 23
17	Wed	St. Patrick's day.	6 10	6 08	8 24
18	Thu	"He profits most who serves best."	6 08	6 09	9 25
19	Fri	Measles often prepare the soil for consumption.	6 07	6 10	10 26
20	Sat	"Exodus" of negroes under "Pap" Singleton arrive, 1879.	6 05	6 11	11 27
21	Sun	First day of spring.	6 04	6 12	morn
22	Mon	The best spring blood medicine—work!	6 02	6 13	0 24
23	Tue	Eugenics is the science of falling in love intelligently.	6 01	6 14	1 17
24	Wed	Topeka constitution presented in U. S. senate in 1856.	5 59	6 14	2 06
25	Thu	Time to clean house and plant sweet peas.	5 58	6 15	2 48
26	Fri	Henry Ward Beecher lectures in Topeka, 1873.	5 56	6 16	3 24
27	Sat	The child's food determines the citizen's physical future.	5 54	6 17	3 56
28	Sun	The tubercular dairy cow is a menace to public health.	5 53	6 18	4 25
29	Mon	A thousand armed Missourians enter Kansas and vote, 1855.	5 51	6 19	4 52
30	Tue	First legislative election, pro-slavery ticket elected, 1855	5 50	6 20	5 18
31	Wed	First locomotive over A. T. & S. F. bridge at Topeka, 1869	5 48	6 21	5 46

MOON'S PHASES.

- ☉ Full Moon, 2d day, 0h. 33m., evening.
- ☾ Last Quarter, 8th day, 6h. 28m., morning.
- New Moon, 15th day, 1h. 42m., evening.
- ☾ First Quarter, 23d day, 4h. 48m., evening.
- ☉ Full Moon, 30th day, 11h. 38m., evening.

Measles in a school is like fire in the tall grass.
If you let the child have measles when he is young, you may save a doctor's bill later on, but you may have to pay the undertaker now.
The child may get well of measles without a doctor—but he may not.
The child who "catches everything" generally carries the burden in after years.

THE SANITARY PRIVY.

One of the greatest agencies in the spread of disease is the unsanitary privy found in most farmyards and in many small towns. Many diseases may be transmitted by allowing the excreta from the human body to come in contact with food and drink through the assistance of soil, birds, insects, and small animals. Therefore the sanitary privy should fulfill the following requirements:

1. The excreta should not be permitted to come in contact with soil which is wet, or with water-bearing sand and gravel to which wells are sunk. A water-tight receptacle which may be emptied conveniently should be provided to go under the seat.

2. The privy should be so built that dogs, rats, chickens, etc., can not have access to the contents.

3. It should be so constructed that flies and insects may not have access to the excreta.

4. It should be well ventilated, so that foul odors will not make its use objectionable.

5. It should be so located and constructed that privacy and convenience for its users will be afforded.

Three types of sanitary privies are in use: The "dry closet," "wet closet," and the "L. R. S.," recommended by the U. S. Department of Agriculture.

The dry-closet system simply consists of placing a water-tight receptacle under the seat, the user sprinkling dry earth or ashes over the contents, burying or burning the contents at intervals. The success of this system depends upon its conscientious use.

The wet-closet system consists in placing a liquid in the receptacle and covering the surface with oil to repel flies or other insects. Sometimes a disinfectant or deodorant is also placed in the receptacle.

The L. R. S. privy differs in that a larger water-tight receptacle is placed under the seat, connected by means of a pipe with a smaller receptacle for receiving the liquid effluent, which may be emptied periodically, or dosed into a connecting system of underdrains. A considerable quantity of the solid matter will rot and liquefy.

A self-closing seat, which opens by the weight of the person using it; a splash-board, which may be easily raised or lowered in the liquid in the receptacle, for the deposition of the solids and their subsequent immersion in the liquid; a self-closing door, which may be obtained by tilting the closet from front to back and a bar or shelf across the closet parallel with the seat and about two and one-half feet above it, to insure the proper usage of the seat, are essential details of all the types.

4th Month.		April, 1915.	30 Days.		
D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rise.
			Rise.	Set.	
1	Thu	The biggest fool—one who violates the laws of health. . . .	5 47	6 22	8 44
2	Fri	Remove the fly-breeding places, and do it now. . . .	5 45	6 23	10 03
3	Sat	Pony express on first trip to Pacific coast, 1860. . . .	5 44	6 23	11 17
4	Sun	Easter.	5 42	6 24	morn
5	Mon	Mob at Santa Fe depot, Topeka; engineer's strike, 1878. . .	5 41	6 25	0 24
6	Tue	687 Wyandotte Indians locate in Kansas, 1832. . . .	5 39	6 26	1 21
7	Wed	Topeka constitution presented U. S. House of Rep., 1856. .	5 38	6 27	2 08
8	Thu	Militia leaves for Santa Fe strike scene, Emporia, 1878. .	5 36	6 28	2 45
9	Fri	(Fort) Scott selected as site for military post, 1842. . .	5 35	6 29	3 14
10	Sat	Court decides Osage lands in favor of settlers, 1876. . .	5 33	6 30	3 40
11	Sun	In the health of the people lies the strength of the nation. .	5 32	6 31	4 05
12	Mon	Free State Hotel, Lawrence, completed in 1856. . . .	5 30	6 32	4 28
13	Tue	Swat the fly and bat the rat.	5 29	6 32	4 50
14	Wed	President Lincoln shot at Ford's theater, 1865. . . .	5 27	6 33	sets
15	Thu	President Lincoln dies.	5 26	6 34	8 15
16	Fri	Sound national physique better than sound national finance.	5 25	6 35	9 16
17	Sat	The typhoid fly is a menace to public health. . . .	5 23	6 36	10 14
18	Sun	Union men tear rebel flag from steamer "Sam Gaty," 1861. .	5 22	6 37	11 10
19	Mon	Polluted well water can not be purified by painting pump. .	5 20	6 38	morn
20	Tue	It takes sixteen owners to make a pound in Kansas. . . .	5 19	6 39	0 00
21	Wed	Daily mail runs between Topeka and Pike's Peak, 1858. . .	5 18	6 40	0 44
22	Thu	U. S. Census gives Kansas a population of 1,096,361. . .	5 17	6 41	1 22
23	Fri	Civic pride should mean civic cleanliness.	5 15	6 41	1 55
24	Sat	First rails produced in the Topeka rolling mills, 1874. . .	5 14	6 42	2 24
25	Sun	The fly is the disseminator of dirt, diarrhea and disease. .	5 13	6 43	2 51
26	Mon	Emigrant Aid Society incorporated by Massachusetts, 1854. .	5 12	6 44	3 16
27	Tue	First enlistments for Twentieth Kansas regiment, 1898. . .	5 11	6 45	3 43
28	Wed	Free-state convention, Topeka, nominates officers, 1858. . .	5 09	6 46	4 18
29	Thu	Live the outdoor life; you'll live longer and better. . . .	5 08	6 47	rises
30	Fri	Rev. Pardee Butler mobbed by proslavery men, 1856. . .	5 07	6 48	8 54

MOON'S PHASES.

- ☾ Last Quarter, 6th day, 2h. 12m., evening.
- New Moon, 14th day, 5h. 36m., morning.
- ☾ First Quarter, 22d day, 9h. 39m., morning.
- ☾ Full Moon, 29th day, 8h. 19m., morning.

Air your home thoroughly daily.
Whooping cough is highly contagious.
Whooping cough in children is a "grave" disease.
The parent who doesn't care "two whoops" whether his child has whooping cough or not will later have those "two whoops" multiplied a thousand fold.

GOOD WELLS AND GOOD WATER MAKE FOR GOOD HEALTH.

May and April are the spring-cleaning months, and should serve to repair the well as much as to dust the carpets. Nothing on the farm is more important or more valuable than pure water. Bad or impure water is more dangerous than the deadliest poison, and always affects those who drink it.

Wells are polluted by organic matter getting into them. This matter comes from human beings or from animals, and is always bad for those who drink it. If it comes from a case of typhoid, or from a person who carries typhoid germs, and gets into the well, it will produce typhoid fever in those who drink it. This matter gets into the well usually through cracks in the top of the well, through soiling the bucket by touching it with dirty hands or setting it on a dirty floor or through holes in the top of the well.

To be sure that the well is good and that dangerous material is kept out, the following things must be true:

1. The well must be not less than 15 feet deep. As a general proposition, the deeper the better.

2. The top must be sound and tight so that no water which falls on it can drip back into the well.

3. The well should be provided with a pump or with a bucket which empties itself and does not have to be touched. The double bucket is always dangerous.

4. The ground immediately around the well should be sloped up to the well and banked with clay or covered with cement, so that all water spilled around the well will run off and not trickle back.

5. The well should be cased with brick or with a terra cotta pipe and the space back of the casing filled with sand.

6. A spring in a limestone country can not be so protected as to make it perfectly sure that it does not come from underground streams at a place far from the well.

7. The spring should be so protected that water can not wash into it from the hillside above or from the platform below. This is best done by cementing or stoning the curbing at least a foot above the ground all around and putting in a pipe for the overflow. All water should then be drawn from the overflow pipe, and not by dipping buckets or dippers.

Look well to the well.

5th Month.

May, 1915.

31 Days.

D. of mo...	D. of wk...	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Sat	Prohibitory law takes effect, 1831.	5 06	6 49	10 08
2	Sun	Organization of first Indian regiment begun.	5 05	6 50	11 12
3	Mon	"The Old Oaken Bucket"—fine sentiment; poor sanitation.	5 03	6 50	morn
4	Tue	Bender murders discovered in 1874.	5 02	6 51	0 03
5	Wed	Look well to your well if you would keep well.	5 01	6 52	0 43
6	Thu	Treaty with the Cherokee Indians, 1828.	5 00	6 53	1 17
7	Fri	Gov. A. H. Reeder escapes disguised in 1856.	4 59	6 54	1 44
8	Sat	Act of Congress for removal of Kaw Indians, 1872.	4 58	6 55	2 09
9	Sun	John Brown born, Torrington, Conn., 1800.	4 57	6 56	2 32
10	Mon	Father Schoenmachers opened school for Indian boys, 1847.	4 56	6 57	2 55
11	Tue	Henry M. Stanley, African explorer, in Kansas, 1847.	4 55	6 58	3 18
12	Wed	"Ain't it fierce?"—the city dump.	4 54	6 59	3 43
13	Thu	Dr. Donald Ross, discoverer cause of malaria, born.	4 53	6 59	4 11
14	Fri	Vaccination first tried, 1796.	4 52	7 00	sets
15	Sat	Waterspout, northwest Elk City, 11 drowned, 1885.	4 51	7 01	9 04
16	Sun	First train to Topeka from Atchison on Santa Fe, 1872.	4 50	7 02	9 56
17	Mon	William Phillips, Leavenworth, tarred and feathered, 1855.	4 49	7 03	10 41
18	Tue	Republican party organized at Oswatomie, 1859.	4 49	7 04	11 21
19	Wed	Marais des Cygnes massacre, 1858.	4 48	7 05	11 54
20	Thu	Passage of homestead law, ch. 75, U. S. Statutes, 1862.	4 47	7 06	morn
21	Fri	Sacking of Lawrence by border ruffians, 1856.	4 46	7 07	0 24
22	Sat	Dr. Brown and Calus Jenkins arrested for treason, 1856.	4 46	7 08	0 51
23	Sun	Swat the fly	4 45	7 08	1 17
24	Mon	Five proslavery men killed by party under John Brown, 1856.	4 45	7 09	1 41
25	Tue	Nine-tenths of your troubles are imaginary.	4 44	7 10	2 09
26	Wed	From flies and filth to food and fever	4 43	7 11	2 40
27	Thu	Destructive floods in valleys of Kansas rivers, 1908.	4 43	7 11	3 17
28	Fri	Laying of first rail on Lawrence & Topeka R. R., 1872.	4 42	7 12	rises
29	Sat	Eugene F. Ware (Ironquill) born, 1841; died July 1, 1911.	4 41	7 12	8 53
30	Sun	Kansas-Nebraska bill, 1854.	4 41	7 13	9 51
31	Mon	Indian raid on Salina, 1869.	4 41	7 14	10 39

MOON'S PHASES.

- ☾ Last Quarter, 5th day, 11h. 23m., morning.
- New Moon, 13th day, 9h. 31m., evening.
- ☾ First Quarter, 21st day, 10h. 50m., evening.
- ☾ Full Moon, 28th day, 3h. 33m., evening.

A dirty well is more dangerous than a dirty kitchen.
Many a "pretty" spring has caused a dismal funeral.
If your roof and your well both leak, fix the well first.
A good iron pump costs less than a case of typhoid.
Good water is one of the best insurance policies a family can carry.
The time to fix your well is before you have to send for a doctor.

INFANTS' COMPLAINTS.

The first warm days in June bring a burden of apprehension to young mothers. The babies, who have thrived during the winter and spring, show the effects of the changed season. They grow pale; they become restless; their digestion is feeble. Every mother wonders, as she looks at her child, whether or not it will survive the warm months of summer.

No mother can get a positive answer to this question; but every mother can be assured that if she is careful of her child and mindful of a few essentials, she can give her child nine chances of living to one of dying. The most important thing to do is to watch the baby's food. If the child is breast-fed and the mother is careful in her personal habits, there is comparatively small danger. If the baby is bottle-fed, there is much greater danger of sickness, but this can be minimized by a few simple precautions. These are the things to do:

1. See that the baby gets fresh and pure milk.
2. See that the milk never sours nor gets heated before being delivered to you.
3. See that the milk is kept cool after you get it.
4. See that the milk and nursing bottles are boiled as often as used.
5. See that everything used on preparing the milk is kept clean.
6. See that flies are kept away from the baby and the baby's bottles.
7. See that a physician examines your baby, prescribes its food and directs its treatment whenever the child is sick.
8. Keep the baby out of doors in the fresh air as much as possible.
9. Feed the baby regularly and not every time it cries or frets.
10. Give the baby water to drink at such times and amounts as the season and age of the baby require.

The State Department of Health has issued for free distribution a pamphlet on the "Care of Babies." Send for it to-day.

6th Month.		June, 1915.	30 Days.		
D. of mo...	D. of wk...	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Tue	Grasshoppers begin to fly, 1875.	4 40	7 14	11 17
2	Wed	Battle of Black Jack, 1856.	4 40	7 15	11 47
3	Thu	God bless the man who first invented screens.	4 39	7 16	morn
4	Fri	First Kansas regiment, Civil War, organized, 1861.	4 39	7 17	0 13
5	Sat	U. S. gives Pottawatomie Indians 576,000 acres of land, 1846.	4 39	7 18	0 36
6	Sun	"Spare the ice and spoil the milk."	4 39	7 18	0 59
7	Mon	Osawatomie sacked by Missourians, 1856.	4 38	7 19	1 22
8	Tue	DeBourgamont crossed Missouri river into Kansas, 1724.	4 38	7 19	1 47
9	Wed	The manure heap is the chief breeding place for flies.	4 38	7 20	2 15
10	Thu	J. C. Fremont left Kansas for Rocky Mountains, 1842.	4 38	7 20	2 47
11	Fri	Nice, clean fly! born and bred in the privy vault! Ugh!	4 38	7 21	3 25
12	Sat	Marais des Cygnes flood drives Indians from homes, 1844.	4 38	7 21	sets
13	Sun	Ground broken at Atchison for Santa Fe Railroad, 1880.	4 38	7 22	8 38
14	Mon	Villasur expedition left Santa Fe, N. M., 1720.	4 38	7 22	9 20
15	Tue	Leavenworth <i>Inquirer</i> suppressed by Gen. J. G. Blunt, 1862.	4 38	7 22	9 55
16	Wed	Steamer <i>Excal</i> starts on second trip to Fort Riley, 1854.	4 38	7 23	10 26
17	Thu	Osage Indians raid Barber and Comanche counties, 1874.	4 38	7 23	10 53
18	Fri	Plan for a sane Fourth of July.	4 38	7 24	11 19
19	Sat	James F. Legate et al., arrested, charged with treason, 1856.	4 38	7 24	11 44
20	Sun	Second Kansas regiment organized at Lawrence, 1861.	4 38	7 24	morn
21	Mon	First day of summer.	4 38	7 24	0 10
22	Tue	Fort Hays established, 1867.	4 39	7 25	0 39
23	Wed	A 160-lb. catfish caught in Kansas river at Topeka, 1859.	4 39	7 25	1 11
24	Thu	A sane Fourth saves lives.	4 39	7 25	1 50
25	Fri	Gen. Custer and command killed on Little Big Horn, 1876.	4 39	7 25	2 40
26	Sat	Work begun on Leavenworth and Lawrence Railroad, 1865.	4 39	7 25	rises
27	Sun	The greatest menace to community health—the open privy.	4 40	7 25	8 27
28	Mon	Tetanus antitoxin is available from State Board of Health.	4 40	7 25	9 10
29	Tue	Diligence is the mother of good luck.	4 40	7 25	9 44
30	Wed	Territory of Missouri divided (Indian Territory), 1834.	4 41	7 25	10 13

MOON'S PHASES.

- ☾ Last Quarter, 4th day, 10h. 32 m., morning.
- New Moon, 12th day, 0h. 57m., evening.
- ☾ First Quarter, 20th day, 8h. 24m., morning.
- ☼ Full Moon, 26th day, 10h. 27m., evening.

Two dollars for a doctor is cheaper than \$100 for a funeral.
It takes time to boil a baby's bottles, but it saves much sorrow and many sleepless nights.
Flies in the kitchen are as dangerous as Rough-on-Rats in the pantry.
If your milkman brings you warm milk, make it hot for him.
The dairyman who adulterates his milk should be sent to jail.

FLIES AND MOSQUITOES.

By July the fly and mosquito season is at its height. The flies seem to come from everywhere and go everywhere. They fall into the boiling-pot; they crawl over the butter; they make their toilet on the vegetable dish; they take their bath in the milk; they rest on the edge of the drinking cup; they are the worst nuisance of the entire summer season. Worst of all, they carry the germs of many diseases, and play a great part in the spread of typhoid fever and probably tuberculosis.

The only good fly is a dead fly; the best fly is the fly that never was born. No man can absolutely prevent the breeding of flies, but every man who will take the trouble can greatly reduce their breeding. Animal and vegetable refuse is the nest of the fly. Bury this, cart it away, burn it or otherwise keep it from the fly and you will greatly reduce the nuisance and danger of flies.

To keep flies from the house, screen the windows and doors and kill the flies that find entrance. If you do not want to buy fly-paper, make it yourself by boiling two pounds of resin in one pint of castor oil until dissolved; spread this on heavy paper and use as needed.

The following is a good formula for making the formaldehyde fly poison: Formaldehyde (formalin) two teaspoonfuls, water one pint. Mix. Pour in a shallow plate and put a piece of bread in the middle of the plate; it furnishes a place for the flies to light on and feed. It must be kept out of reach of children, as it is poisonous.

Mosquitoes, unlike flies, breed only in stagnant water, but they are as great a nuisance as flies in some localities, and, in addition, spread malaria. If you keep water from standing around the premises, if you drain or fill pools of stagnant water, if your cistern or rain barrel is mosquito proof, if you will not permit old cans and bottles around the premises to catch rain water, you will have little trouble with mosquitoes.

Swat the fly!

Oil the mosquito!

7th Month.

July, 1915.

31 Days.

D. of mo.	D. of wk.	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Thu	J. M. Armstrong opens first free school, 1844.	4 41	7 25	10 39
2	Fri	Legislature met at Pawnee, 1855.	4 42	7 25	11 03
3	Sat	Patriotism does not consist of noise.	4 42	7 25	11 25
4	Sun	First celebration in Kansas by Lewis and Clark, 1804.	4 43	7 25	11 50
5	Mon	Send for tetanus antitoxin.	4 43	7 25	morn
6	Tue	Take antityphoid inoculation.	4 44	7 25	0 17
7	Wed	A. J. Reeder, first governor of Kansas territory, 1854.	4 44	7 24	0 47
8	Thu	M. DeBourghmont began explorations in Kansas, 1724.	4 45	7 24	1 24
9	Fri	Henceforth I whimper no more.	4 45	7 24	2 07
10	Sat	First enlistments for Colored Kansas battery, 1864.	4 46	7 24	2 55
11	Sun	Eat lightly and drink cool water in hot weather.	4 46	7 23	3 51
12	Mon	Humboldt sacked by rebels; burned October 16, 1861.	4 47	7 23	sets
13	Tue	The city dump is a city disgrace.	4 47	7 22	8 30
14	Wed	F. S. & W. railroad completed to Wichita, 1883.	4 48	7 22	8 57
15	Thu	Third Kansas regiment organized, 1861.	4 49	7 22	9 23
16	Fri	Grant, Sherman and Sheridan met at Leavenworth, 1861.	4 50	7 21	9 48
17	Sat	Petroleum in Miami and Bourbon counties, 1865.	4 50	7 21	10 13
18	Sun	First overland coach arrives from the Pacific, 1861.	4 51	7 20	10 39
19	Mon	E. G. Ross appointed U. S. senator by Gov. Crawford, 1866.	4 52	7 20	11 09
20	Tue	Keep your head cool and your heart warm.	4 53	7 19	11 46
21	Wed	From filth and flies to food and fever.	4 54	7 19	morn
22	Thu	Frequent bathing keeps the sewers open.	4 54	7 18	0 31
23	Fri	Patronize the clean grocer.	4 55	7 18	1 26
24	Sat	First Kansas battery organized, 1861.	4 56	7 17	2 31
25	Sun	Peace with the Cheyennes and Arapahoes concluded, 1825.	4 57	7 16	3 46
26	Mon	William Walker appointed provisional governor, 1853.	4 58	7 15	rises
27	Tue	"Smuggler," a Kansas horse, makes a mile in 2:16½, 1876.	4 58	7 15	8 12
28	Wed	Emigrant Aid settlers arrive at mouth of Kaw, 1854.	4 59	7 14	8 38
29	Thu	Wyandotte const., adopted, 1859. Kansas made a state, 1861.	5 00	7 13	9 04
30	Fri	The manure heap is the season's greatest danger.	5 01	7 12	9 27
31	Sat	If you can not work outdoors, sleep outdoors.	5 02	7 11	9 51

MOON'S PHASES.

- ☾ Last Quarter, 3d day, 11h. 54m., evening.
- New Moon, 14th day, 3h. 31m., morning.
- ☾ First Quarter, 19th day, 3h. 9m., evening.
- ☾ Full Moon, 26th day, 6h. 11m., morning.

For the seventh season we remark—SWAT THE FLY.
A fly in the milk means a member of the family in the grave.
Wire screens in the windows keep crepe from the door.
Keep flies from the house and you may keep the doctor from the gate.
The wise mother screens the baby's cradle, and wears a smile; the foolish mother does not, and may wear mourning.

TYPHOID FEVER.

About this time of year typhoid fever begins to appear in many of the counties of Kansas. Some people are beginning to believe that typhoid fever is "catching." Well, you do not "catch" typhoid fever like you do smallpox; you swallow it. Typhoid fever is caused by a germ which gets into the mouth from the fingers, or from something we eat or drink. We swallow it; the germs multiply and grow and cause the disease we call typhoid fever.

To prevent typhoid fever the greatest care must be taken to see that the well or the cistern or the spring, whichever is used as a source of water supply, is protected from every possible source of pollution. A good well must have a sound, tight top, with a water-tight casing or curbing. A well with a leaky top, or with holes around the sides, or with a bucket which is touched with dirty hands, is likely to give rise to dangerous pollution.

Then, too, the outside toilet must be looked after, to see that there is no danger of pollution from it. The discharges from human beings constitute the most dangerous material on the farm, or in the town in the summer time. It should be cared for as carefully as if it were a deadly poison. Flies carry typhoid-fever germs on their feet, and if the toilet is open so that chickens or other domestic animals can get at it, they too will carry this dangerous material on their feet about the yard, onto the well top, which, in turn, may be washed into the well, or be carried on the feet of people into the kitchen, to there become a dangerous source of pollution for food or drink.

To avoid typhoid fever:

First. Wash the hands before eating anything, and do not put the fingers into the mouth.

Second. Do not drink any water that you do not know comes from a good well, cistern or spring, or from a good, safe city supply, unless it has been thoroughly boiled.

Third. Do not drink milk unless you know where it comes from and have reason to believe that it is safe and wholesome.

Fourth. If you are in a strange place, do not eat anything unless it has been recently boiled or otherwise heated through and through.

Fifth. Before taking your summer vacation have your physician immunize you against typhoid fever by giving you the typhoid bacterins.

The State Board of Health will send you its bulletin on "Typhoid Fever and Its Prevention" for the asking.

8th Month.

August, 1915.

31 Days.

D. of mo	D. of wk...	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Sun	U. S. Troops leave Leavenworth to subdue Mormons, 1857.	5 02	7 10	10 17
2	Mon	Col. S. N. Goss gives ornithological collection, 1882.	5 03	7 09	10 46
3	Tue	Recruiting begun by first Kansas Colored infantry, 1862. . .	5 04	7 08	11 20
4	Wed	Forget not the cat when the house is closed for the summer.	5 05	7 07	morn
5	Thu	Free-state men take a fort at Osawatomie, 1856.	5 06	7 06	0 01
6	Fri	A good housekeeper's house is free from flies.	5 06	7 05	0 48
7	Sat	Gen. Miles organizes expedition against Indians, 1874. . .	5 07	7 04	1 41
8	Sun	Legislature selects Leocompton as capital of territory, 1855.	5 08	7 03	2 40
9	Mon	Teach the children to swim.	5 09	7 02	3 44
10	Tue	Battle of Wilson's Creek, Mo.; Kansas took part in it, 1861.	5 10	7 01	sets
11	Wed	Fight the mosquito by destroying its breeding place.	5 11	6 59	7 27
12	Thu	Free-state men attack and capture Franklin, 1856.	5 12	6 58	7 52
13	Fri	Muzzle the mosquito by abolishing its breeding places. . . .	5 13	6 57	8 18
14	Sat	Free-state convention assembled at Lawrence 1855.	5 14	6 56	8 45
15	Sun	S. C. Pomeroy sends message over new telegraph line, 1859. .	5 15	6 55	9 13
16	Mon	Lawrence men capture Fort Titus and twenty men, 1856. . .	5 15	6 53	9 45
17	Tue	Death of ex-Gov. Chas. Robinson, Lawrence, 1894.	5 16	6 52	10 26
18	Wed	General Sully pursues Indians in Solomon Valley, 1868. . . .	5 17	6 51	11 17
19	Thu	Murder of Hopps, Free-state, by Pugit, proslavery, 1856. . .	5 18	6 50	morn
20	Fri	Tin cans are favorite breeding places for mosquitoes.	5 19	6 48	0 18
21	Sat	Isaac McCoy starts from St. Louis to explore Kansas, 1828.	5 19	6 47	1 27
22	Sun	Quantrill raid on Lawrence; 143 killed; 30 wounded; 1863. . .	5 20	6 45	2 39
23	Mon	John Brown leaves Chicago for Kansas, 1855.	5 21	6 43	3 53
24	Tue	When in doubt, boil the water.	5 22	6 42	rises
25	Wed	Governor Shannon declares territory in insurrection, 1856. .	5 23	6 41	7 04
26	Thu	Patent medicines that claim cures don't cure.	5 23	6 40	7 27
27	Fri	New Orleans favors making Kansas a slave state, 1856. . . .	5 24	6 38	7 52
28	Sat	Masticate your food thoroughly; eat slowly.	5 25	6 37	8 18
29	Sun	Susan B. Anthony starts for Kansas, 1867.	5 26	6 36	8 46
30	Mon	Battle of Osawatomie, 1856. John Brown monument, 1877.	5 27	6 34	9 19
31	Tue	Get the children ready for school.	5 28	6 33	9 56

- MOON'S PHASES.
- ☾ Last Quarter, 2d day, 3h. 27m., evening.

● New Moon, 10th day, 4h. 52m., evening.

☾ First Quarter, 17th day, 8h. 17m., evening.

☾ Full Moon, 24th day, 3h. 40m., evening.

If some people were as much afraid of flies as they are of bad water,
there would be less typhoid.

Good water is more to be prized than rubies, and clean hands are
better than much fine gold.

The fly has small feet, but can carry a million typhoid germs.

DIPHTHERIA AND SCARLET FEVER.

The prevalence of these diseases mark the early fall months, because this is the opening of the school year, and these diseases are spread preëminently through contact in the school room. How much expense, suffering and death might be saved if every school district would employ a competent medical adviser, especially in times of epidemic, to observe and call out all suspicious cases of throat affections.

The infective germs or organisms of these two diseases are spread through the nose and throat secretions, and, possibly, in scarlet fever, by exfoliations or scales from the skin. These secretions are distributed by coughing or sneezing, by common drinking cups or buckets, by interchange of pencils, and kissing, by other methods of direct or indirect contact. They begin like a cold. Any child with a cold has no business in a school room and should be sent home, for even colds are communicable. *Teachers should encourage punctuality, but not risk the health of a whole school to set a mark of attendance.*

Mild cases of scarlet fever are as contagious as severe ones, although they may not be for so long. Since we do not know the specific germ causing the disease, the term of quarantine is fixed at twenty-eight days from recovery, and not less. This may be inconvenient, but it is safe. In both diseases many persons may carry the germs in throat and nose without developing symptoms, and yet may transmit them in a serious form to others.

Antitoxin early reduces the death rate in diphtheria by over two-thirds. This is supplied free by the state of Kansas to those who can not afford to buy it.

When either disease is prevalent, dodge every case of sore throat, however mild. *Safety first!*

Our bulletins on these affections free for the asking.

9th Month. September, 1915. 30 Days.

D. of mo...	D. of wk...	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Wed	Wm. Phillips, Free-state, killed, Leavenworth election, '56.	5 29	6 31	10 40
2	Thu	Battle of Dry Wood, 1861.	5 30	6 30	11 31
3	Fri	Platte river bridge massacre, Missouri, 1861.	5 31	6 29	morn
4	Sat	The oyster season begins; they are unwatered in Kansas. . .	5 32	6 27	0 28
5	Sun	Free-state convention and Free-state party organized, 1855.	5 32	6 26	1 29
6	Mon	Fort Zarah established, 1864. <i>Labor Day.</i>	5 33	6 24	2 34
7	Tue	Commissions to officers of Arapahoe county, 1855. . . .	5 34	6 23	3 40
8	Wed	Discoveries of rich lead mines near Baxter Springs, 1873. .	5 35	6 21	4 45
9	Thu	The Sixth Kansas organized at Fort Scott, 1861. . . .	5 36	6 20	sets
10	Fri	Second Kansas battery organization begun, 1862. . . .	5 36	6 18	6 47
11	Sat	First successful Topeka biplane, by A. K. Longren, 1911. .	5 37	6 17	7 15
12	Sun	Humboldt sacked by rebels, 1861.	5 38	6 15	7 48
13	Mon	Battle of Hickory Point, 1856.	5 39	6 13	8 28
14	Tue	Gov. Crawford calls for troops for Indian warfare, 1868. .	5 40	6 12	9 15
15	Wed	First Kansas paper published, Leavenworth <i>Herald</i> , 1854. .	5 40	6 10	10 12
16	Thu	Third Indian regiment organized, 1862.	5 41	6 09	11 17
17	Fri	Battle of Arickaree, 51 scouts vs. 500 Indians, 1868. . .	5 42	6 07	morn
18	Sat	Legal hanging at Seneca, 1868.	5 43	6 05	0 26
19	Sun	Ain't it fierce?—the city dump!	5 44	6 04	1 38
20	Mon	The John Brown song first sung at Leavenworth, 1861. .	5 45	6 02	2 49
21	Tue	The best guide to dress is the weather.	5 46	6 01	3 57
22	Wed	Great epidemics from little sore throats grow.	5 47	5 59	5 03
23	Thu	First day of autumn.	5 48	5 58	rises
24	Fri	Delaware Indians given land in France, 1828.	5 49	5 56	6 20
25	Sat	Is your baby registered? If not, let us know.	5 40	5 55	6 48
26	Sun	Leavenworth chosen site for National Military Home, 1884.	5 50	5 53	7 19
27	Mon	President Taft lays corner stone of Memorial Building, 1911.	5 51	5 52	7 53
28	Tue	William H. Seward given reception at Atchison, 1860. . .	5 52	5 50	8 35
29	Wed	Lieut. Z. M. Pike raises U. S. flag at Pawnee, 1806. . . .	5 53	5 49	9 23
30	Thu	Cheyenne Indian massacre, Decatur county, 1878. . . .	5 53	5 47	10 17

MOON'S PHASES.

- ☾ Last Quarter, 1st day, 4h. 57m., morning.
- ☾ New Moon, 9th day, 4h. 53m., morning.
- ☾ First Quarter, 16th day, 1h. 21m., morning.
- ☾ Full Moon, 23d day, 3h. 35m., morning.

Giving antitoxin is as certain in its results as pouring water on a fire, and it is just as important to do it early.
A syringe of antitoxin is more efficacious in a case of diphtheria than a month of nursing.
The rusty tin cup and the wooden bucket in the schoolroom are convenient, but they are dangerous.

SCHOOL HYGIENE.

Efficiency in work and full enjoyment of life are largely conditioned upon good health, and good health is not possible without proper sanitary surroundings. Some of the essentials for a sanitary school are: sanitary toilets, pure water, an abundance of fresh air, proper heating facilities, the elimination of the common cup, towel, book and pencil, proper janitor service in sweeping and dusting, and last but by no means least, the physical supervision of students and teachers, to the end that physical defects, which greatly hinder the progress of mental and physical development, may be discovered and remedied, and that the presence of communicable disease may become known before being conveyed to others.

It too often happens that the toilet and well are located with a view to convenience rather than of sanitation, and their close proximity makes it possible for the water to be grossly polluted, while the unscreened open toilet is a place where flies have ready access, and is thereby the means of conveying dangerous pollution. In the average country schoolhouse, too, no method of ventilation save that of the windows is provided, and during the winter time they usually remain closed.

The method of heating used in the average rural school is such as to insure a roasting on one side and a freezing on the other during cold weather. The common sweeping broom and feather duster should be abolished, together with the common drinking cup and common towel, substituting the hair brush broom with a sweeping compound, and dusting with a damp cloth.

The use of common pencils and common books may be saving in books and pencils, but a great economic waste, as they insure a perfect method for the dissemination of disease from one child to another. The childish habits of swapping chewing gum, taking bites from food eaten by another, should be discouraged by giving information to the children of the various methods of transmitting infection.

Before the fall term of school begins every child should be examined for physical defects, particularly those of the special senses of vision and hearing, and every child suffering from what seems to be a severe cold, or having a fever from any cause whatsoever, should be immediately sent home with request that the family physician be notified.

Kansas demands a symmetrical training of the child—body, mind and soul.

10th Month.

October, 1915.

31 Days.

D. of mo. . . .	D. of wk. . . .	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Fri	Spain cedes Louisiana to France, 1800.	5 54	5 46	11 16
2	Sat	Keep the milk clean, covered and cool.	5 55	5 44	morn
3	Sun	D. Lecompte, first chief justice of Kansas Ter., 1854.	5 56	5 42	0 18
4	Mon	Kan. Asso. for Study and Prevention of Tuberculosis, 1908.	5 57	5 41	1 21
5	Tue	Kansas river crossed by Bourgmont's party, 1724.	5 58	5 39	2 27
6	Wed	Oxford, Johnson Co., cast 1,628 illegal proslavery votes, 1857.	5 59	5 38	3 33
7	Thu	Kansas wagon gets first medal Centennial Exposition, 1876.	6 00	5 36	4 41
8	Fri	Militia called out to repel Price's invasion, 1864.	6 01	5 35	5 49
9	Sat	First sale of town lots, Leavenworth, 1854.	6 02	5 33	sets
10	Sun	Washington Irving at Fort Gibson, Indian Territory, 1852.	6 03	5 32	6 25
11	Mon	Gov. Crawford called for troops, Nineteenth Kansas, 1868.	6 04	5 30	7 10
12	Tue	P. B. Plumb born 1837; U. S. senator 1877-1891.	6 05	5 29	8 06
13	Wed	Indians in Solomon valley, 4 killed, 2 captured, 1868.	6 06	5 28	9 10
14	Thu	Treaty with Arapahoes and Cheyennes, 1865.	6 07	5 26	10 19
15	Fri	Fiftieth Kansas cavalry organized, 1863.	6 07	5 25	11 31
16	Sat	Custer leaves Leavenworth to command Fort Riley, 1866.	6 08	5 23	morn
17	Sun	Corner stone of state capitol, Topeka, laid, 1866.	6 09	5 22	0 41
18	Mon	Gen. Sherman at Leavenworth, public reception, 1865.	6 10	5 21	1 48
19	Tue	Gov. Walker rejects election returns from Oxford, 1857.	6 11	5 19	2 54
20	Wed	Terrible prairie fire in Butler county, 1872.	6 12	5 18	3 58
21	Thu	Kansas Herald of Freedom, by O. W. Brown & Co., 1854.	6 13	5 16	5 01
22	Fri	Battle of the Blue, 1864.	6 14	5 15	6 08
23	Sat	Topeka constitutional convention meets, 1865.	6 15	5 14	rises
24	Sun	Kickapoes receive lands in eastern Kansas, 1832.	6 16	5 13	5 52
25	Mon	Cool weather does not call for closed windows.	6 17	5 11	6 31
26	Tue	Live the outdoor life.	6 18	5 10	7 16
27	Wed	Theodore Roosevelt born, 1858.	6 19	5 09	8 08
28	Thu	Arapahoe and Cheyenne Indians located in Ind. Ter., 1867.	6 20	5 08	9 05
29	Fri	Gov. Walker threatened account election proceedings, 1857.	6 21	5 07	10 05
30	Sat	Settlers driven from Mine Creek, Linn county, 1861.	6 22	5 05	11 06
31	Sun	Pres. Johnson accepts 40 miles of Kansas Pacific Rld., 1865.	6 23	5 04	morn

MOON'S PHASES.

- ☾ Last Quarter, 1st day, 3h. 44m., morning.
- New Moon, 8th day, 3h. 42m., evening.
- ☾ First Quarter, 15th day, 7h. 51m., morning.
- ☾ Full Moon, 22d day, 6h. 15m., evening.
- ☾ Last Quarter, 30th day, 10h. 40m., evening.

It is sometimes difficult to protect a child from scarlet fever, but it is easier than to see a child made deaf for life.
If the child shows the rash of scarlet fever, do not persuade yourself it has chickenpox. Send for the doctor.
A neighbor may send your baby a basket of toys; but if there has been scarlet fever in that family, put the stuff in the fire.

COLDS AND INFLUENZA.

The changing weather and chill winds of November bring a crop of colds all over Kansas. Few are exempt; some suffer for a few days; some are unwell for weeks; some contract permanent lung troubles and bronchitis. Comparatively few colds lead to consumption, but as every cold weakens the system and makes the person more liable to other diseases, and particularly to consumption, every cold should be closely watched.

There is no infallible rule by which colds can be prevented, and there is no law by which every one can protect himself from the germs which cause influenza. Common sense is the best protection. A little forethought is the best ally of common sense.

Draughts, overheated, unventilated rooms, unsuitable clothing and senseless exposure are the chief causes of colds. Care for these things greatly reduces the danger of colds. The man who sits in a draught, for instance, and exposes one part of his body in this way, may expect a cold. On the other hand, the man who is so much afraid of draughts that he lives in a close or stuffy room, may expect to contract a cold when he goes into the open air. The open window which does not create a draught is the secret of proper precaution. Never stay in a close room, but never so ventilate a room that you create a draught where you are sitting.

Unsuitable clothing is also to be avoided. The man who puts on his flannels in November and resolves not to take them off, except for a change, until the spring, unconsciously determines that he will have colds. Regulate your clothing according to the weather; in warm spells, reduce your clothing; in cold snaps; increase it. When you leave a heated room to go into the open air, protect your body by additional clothing; or, if you do not care to wear an overcoat, reduce your clothing when you enter a warm place. A little foresight is better than a spell of sickness.

Keep your head cool and your feet warm!

Sleep in well-ventilated bedrooms.

Work in well-ventilated rooms.

The neglected cold is the season's greatest danger.

11th Month. November, 1915. 30 Days.

D. of mo....	D. of wk....	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Mon	Natural gas for manufacturing first used at Iola, 1896.	6 24	5 03	0 09
2	Tue	France cedes Louisiana to Spain, 1762.	6 25	5 02	1 14
3	Wed	U. P. Rld. Co., Southern branch, organized, Emporia, 1865.	6 26	5 01	2 19
4	Thu	Gov. Crawford resigns to command Nineteenth Kan. cav., '68.	6 28	5 00	3 27
5	Fri	Open your windows; fresh air never hurt any one.	6 29	4 59	4 38
6	Sat	The cost of food bears no relation to its nutritive value.	6 30	4 58	5 52
7	Sun	Treaty locating Shawnees in eastern Kansas, 1825,	6 31	4 57	sets
8	Mon	Not what you eat but what you digest nourishes you.	6 32	4 56	5 52
9	Tue	L. D. Lewelling, first People's party gov., elected, 1892.	6 33	4 55	6 56
10	Wed	Proclamation for election of delegates to Congress, 1854.	6 34	4 54	8 07
11	Thu	The only bad night air is last night's air.	6 35	4 53	9 20
12	Fri	Miss Clough, of Leavenworth, first woman notary in Kan., '71.	6 36	4 52	10 32
13	Sat	One-third of the sickness and deaths are preventable.	6 37	4 51	11 42
14	Sun	Organisation of "Law and Order Party," Leavenworth, 1855.	6 39	4 51	morn
15	Mon	Telegraph completed to Topeka, 1865.	6 40	4 50	0 48
16	Tue	Humboldt's first paper started by Joseph Bond, 1864.	6 41	4 49	1 51
17	Wed	First Kansas aeroplane, trial by H. L. Call, Pittsburg, 1908.	6 42	4 48	2 53
18	Thu	The lure of the red light is a decoy for the red plague.	6 43	4 48	3 55
19	Fri	Samuel Medary appointed governor of Kansas Ter., 1858.	5 44	4 47	4 57
20	Sat	First Thanksgiving day in Kansas, 1856.	6 45	4 47	5 59
21	Sun	Uncemented cesspools menace of underground waters.	6 46	4 46	rises
22	Mon	Avoid consumption cures; they never cure.	6 47	4 45	5 14
23	Tue	First report of vital statistics issued, 1911.	6 48	4 45	6 04
24	Wed	Executive offices removed to Shawnee Mission, 1854.	6 49	4 44	6 59
25	Thu	Thanksgiving day.	6 50	4 44	7 57
26	Fri	Delaware Baptist Mission located by Dr. Lykins, 1832.	6 51	4 43	8 57
27	Sat	The wages of filth is disease.	6 52	4 43	9 58
28	Sun	First excursion, Kan. Pac., Wyandotte to Lawrence, 1864.	6 53	4 42	10 59
29	Mon	First election of delegates to Congress, 1854.	6 54	4 42	morn
30	Tue	Battle of Franklin, Tenn., Eighth Kan., participated, 1864.	6 55	4 41	0 02

MOON'S PHASES.

- New Moon, 7th day, 1h. 52m., morning.
- ☾ First Quarter, 13th day, 5h. 3m., evening.
- ☾ Full Moon, 21st day, 11h. 36m. morning.
- ☾ Last Quarter, 29th day, 4h. 10m., evening.

A light overcoat is better than a heavy cold.
Many a cough ends in a coffin.
A stuffy room is the germ's best ally.
A little ventilation is more effective than much quinine.
"Catching cold" is an accurate expression, because most colds are
"catching," or contagious.

CANCER.

A MENACE TO SOCIETY. Cancer respects neither race, creed, nor social position. It is the common enemy of all mankind, attacking rich and poor alike. Its insidious onset occurs at the most useful period of life, and death is most common at the age when the care and guidance of children and the continuance of business responsibilities make the mother and father the most useful members of society.

THE NATURE OF CANCER. Cancer is almost invariably at first a local disease. It is easily cured if promptly recognized and at once removed by competent treatment. It is practically always incurable in its later stages.

THE DANGER SIGNS. The disease usually begins in some unhealthy spot or some point of local irritation. In external cancer there is something to be seen or felt, such as a wart, a mole, a lump or scab, or an unhealed wound or sore. Pain is rarely present. Cancer inside the body is often recognized by symptoms before a lump can be seen or felt. Persistent indigestion, with loss of weight and change of color, or bloody discharges, are especially suspicious symptoms.

THE CURE OF CANCER. Never be afraid to know the truth. Any painless lump or sore appearing upon your body should be examined by your physician. By the time a cancer has become painful the best chance for its cure has passed. But even a painful cancer can be removed permanently if it has not extended too far beyond the place where it began.

If you notice that a wart, mole or other "mark" begins to change in appearance or to show signs of irritation, go to a physician and have it completely removed. Do not wait until you are sure it is cancerous.

All lumps in the breast should be examined. In women the normal change of life does not lead to increased flowing, which is always suspicious, as is the return of flowing after it has stopped.

Medicine which relieves pain does not have any effect upon the disease itself; it simply produces a period of freedom from discomfort and therefore delays the proper treatment.

THE CONTROL OF CANCER. *A Message of Hope.* The only cure for cancer is to remove every vestige of the disease. The only sure way to do this is by a surgical operation.

If taken at the beginning, the majority of cases of cancer are curable. All cases will end in death if let alone.

Records of our best hospitals prove that the chances of cure are very high with early operations, and that these chances decrease with every day of delay.

Early diagnosis is therefore all-important.

12th Month. December, 1915. 31 Days.

D. of mo...	D. of wk...	IMPORTANT DATES IN KANSAS HISTORY.	Sun.		Moon rises.
			Rises.	Sets.	
1	Wed	Abraham Lincoln speaks at Elwood, 1859.	6 56	4 41	1 07
2	Thu	John Brown hung at Charlestown, Va., 1859.	6 57	4 41	2 14
3	Fri	Lawrence besieged by Missourians, 1855.	6 58	4 41	3 25
4	Sat	David J. Brewer, associate justice U. S. supreme court, 1889.	6 59	4 41	4 40
5	Sun	Topeka founded by C. K. Holliday and others, 1854.	7 00	4 41	5 56
6	Mon	Geo. W. Martin, secretary State Historical Society, 1899.	7 01	4 41	sets
7	Tue	First Free-state legislature met at Leocompton, 1857.	7 02	4 41	5 42
8	Wed	Mrs. E. P. Allerton published "Walls of Corn," 1883.	7 03	4 41	6 58
9	Thu	Gov. Shannon orders proslavery forces to disband, 1855.	7 03	4 41	8 15
10	Fri	Capitol building, 427-429 Kansas ave., used 1863 to 1869.	7 04	4 41	9 28
11	Sat	Colds are "catching."	7 05	4 41	10 37
12	Sun	This is an age of baths and not of perfumes.	7 06	4 41	11 42
13	Mon	Is it the odor of sanctity in the 'unventilated church?'	7 07	4 41	morn
14	Tue	Third Kansas captures Butler and Papineville, Mo., 1861.	7 07	4 42	0 46
15	Wed	Proslavery men destroy paper at Leavenworth, 1855.	7 08	4 42	1 49
16	Thu	Kansas wheat first prize at Omaha Corn Exposition, 1908.	7 09	4 42	2 51
17	Fri	Bill to establish Kansas and Nebraska Territories, 1844.	7 10	4 42	3 52
18	Sat	Gov. Medary assumed duties of governor of Kan. Ter., 1858.	7 10	4 48	4 52
19	Sun	Heredity plays but second fiddle in tuberculosis.	7 11	4 48	5 50
20	Mon	Battle of the Spurs, Jackson county, 1858.	7 11	4 44	6 45
21	Tue	Great meteor passes over Kansas, 1876.	7 12	4 44	rises
22	Wed	Lawrence convention nominates state officers, 1855.	7 12	4 44	5 51
23	Thu	Free-state meeting at Lawrence, 1854.	7 13	4 45	6 50
24	Fri	Cass promulgates squatter sovereignty dogma, 1847.	7 13	4 45	7 50
25	Sat	Christmas.	7 14	4 46	8 52
26	Sun	A laugh is worth a hundred groans on any market.	7 14	4 46	9 54
27	Mon	T. N. Stinson commissioned as treasurer Kan. Ter., 1855.	7 14	4 47	10 56
28	Tue	Our motto—Pure food, drugs and water for Kansas.	7 15	4 48	morn
29	Wed	Lawrence dam completed and used, cost \$100,000, 1874.	7 15	4 48	0 00
30	Thu	Osage Indians locate on the Neosho river, 1825.	7 16	4 49	1 06
31	Fri	Law abolishing slavery in Kansas unconstitutional, 1860.	7 16	4 50	2 16

MOON'S PHASES.

- New Moon, 6th day, 0h. 4m., evening.
- ☾ First Quarter, 13th day, 5h. 38m., morning.
- ☾ Full Moon, 21st day, 6h. 52m., morning.
- ☾ Last Quarter, 29th day, 6h. 59m., morning.

A careless spitter with a little cough is a dangerous citizen.
It is difficult to cure consumption; it is easy to prevent it.
Open your windows for the fresh air and you will seldom have to open
your pocketbook for the druggist.
Sow the seed of consumption and you reap the fruits of death.
Avoid consumption "cures." They never cure.

CONSUMPTION.

Winter is the worst time of year for contracting consumption, the "Great White Plague."

This disease is caused by a minute germ which is familiar to all scientists. This germ gets into the body and settles in the lungs and grows, and by its growth destroys the lungs very rapidly. The sputum of the consumption is filled with these germs, and if these germs get into other people's bodies they are apt to give them consumption.

Consumption is spread about by careless spitting, kissing, by fingers soiled with the germs from the mouth, by common drinking cups, and the like.

If you have consumption, do not give it to others. Do not spit on floors, sidewalks, street cars, elevators or public places. Spit into a special sputum cup, or napkin that can be burned. Hold a handkerchief, better a paper, one that may be burned, before the face when coughing. Do not kiss anyone, do not use a public drinking cup or glass, and if the fingers are soiled with your sputum wash them thoroughly with soap and water at once. Remember that if you are careless you may give your terrible disease to others.

If you have not consumption, do not get it. Do not work or live in a place where people spit on the floor. Do not use a public drinking glass. Do not kiss people who may have consumption. Do not put the fingers into the mouth for any purpose. Wash the hands always before eating. Do not spit on the floor yourself; do not let others do it. Keep in good health by avoiding excesses, eating sensibly, and most important of all, by getting plenty of fresh air. Do not work in a room where there is no fresh air. Do not live in a room where there is no fresh air. Do not sleep in a room where there is no fresh air.

The State Department of Health publishes bulletins which give full information of the cause and treatment of consumption. They will send, free of cost, these bulletins, to any citizen who will send his name and address to the office in Topeka.

PROTECT YOUR BABY.

Probably no single act of legislation of late years will prove of more ultimate value to the citizens of this state than the vital statistics law, which requires the registration of all births and deaths which occur within the state.

The question has been very aptly raised, Is a baby of as much value as a hog? No experienced stock raiser would fail to secure the registration of pedigreed stock which he raises, but the baby is frequently left without a similar protection. Every day there is increasing demand for positive establishment of identity and relationship. The inheritance of property and the rights to exercise the functions of citizenship are best established by the official registration of births. This is also an exceedingly important legal consideration.

The law prescribes that a certain period of every individual shall be given over to education, and as the child-labor law limits the age at which children may be taken into industrial life, the administration of this law depends very largely upon complete registration. With every birth properly recorded at the time of its occurrence by those who are in a position to give all of the facts concerning it, it will be no longer possible to deprive the child of its educational opportunities and to thrust it prematurely into industrial life by age misrepresentation.

With birth registration, doubt as to the age of consent on the part of females can no longer furnish escapes from the penalties of statutory crime.

Birth registration affords an opportunity for an actual survey of the sources from which our population is being renewed and of the incidence of high infant mortality, without which the protection of the life of the innocent babe can not be intelligently effected. Sociologists tell us that children are no longer regarded as the exclusive possession of their parents; they belong to society, where eventually they must take their place to help work out the destiny of the nation.

Even the illegitimate child is beginning to receive thoughtful consideration through proper birth registration, and we are beginning to transfer the stigma of illegitimacy from innocent offspring to guilty parents.

If the "stork" has visited your home within the past year, ask your city clerk or township clerk if the birth has been properly registered, and if not, write the facts to the state registrar, at Topeka.

Protect your babe by securing its registration. This is one of the few things that is really worth while for which you do not have to pay.

FOOD AND DRUG MAXIMS.

Poor food ruins digestion.

Pure food and drink are essential to health.

Beware of the patent medicine cure-all; they never cure.

Howe'er it be, it seems to me 'tis only noble to be clean.

Flavor is very important to good digestion and consequent health.

"Beauty is as beauty does"; it can not be purchased at the drug store.

A merchant with a sanitary shop "freezes" out his insani-tary competitors.

Proper sanitation of food and drink establishments is a power for the pure article.

An old English writer has justly remarked: "The kitchen is the best pharmacopœia."

Disagreeable foreign flavors in foodstuffs may be legiti-mately classed as adulteration.

Correct scales, weights and measures are essential for the economical distribution of food.

We demand pure food and drink supplied to us in sanitary containers and in sanitary shops.

Beware of the mail-order fakir and the cure-all quack, for verily they are wolves in sheep's clothing.

It is not only illegal to sell decomposed animal or vegetable substances, but it is ungodly and unclean.

Bacteria, yeasts and molds only develop in canned foods which have started to decay or decompose.

A well-balanced ration of pure food for our diet prevents disease, for it keeps the body in condition by warding off dis-ease.

Many sufferers from digestive troubles—headache, nausea, colic and diarrhea after eating—owe their ailments to tainted foods.

The food of the child determines the future of the citizen, and the physical strength of the potential fathers and mothers of the state.

Short weights and measures and incorrect scales where foods are bought or sold drain the pocketbook and are an impolite way of stealing.

The esthetic sense should be cultivated for pure food and drink; but it should not be cultivated for fraud and deceit by making the genuine or imitation article appear better than it really is.

Morning and Evening Stars.

Mercury will be most favorably situated for being seen as evening star low in the west soon after sunset February 5, May 31 and September 27; and as morning star in the east before sunrise on March 19, July 18 and November 6.

Venus will be morning star until September 12, then evening star the rest of the year, attaining greatest brilliancy as morning star January 1.

Mars will be morning star throughout the year.

Jupiter will be evening star until February 23, morning star February 23 to September 16, and then evening star through the year.

Saturn will be evening star until June 28, then morning star the rest of the year.

TIMES OF RISING AND SETTING OF THE PLANETS.

DATE.	VENUS.		MARS.		JUPITER.		SATURN.	
		H. M.		H. M.		H. M.		H. M.
Jan. 1.....	rising	4 0 a.m.	rising	7 11 a.m.	setting	7 51 p.m.	setting	6 28 a.m.
Jan. 15.....	rising	3 48 a.m.	rising	6 58 a.m.	setting	7 12 p.m.	setting	5 29 a.m.
Feb. 1.....	rising	3 53 a.m.	rising	6 36 a.m.	setting	6 26 p.m.	setting	4 18 a.m.
Feb. 15.....	rising	4 0 a.m.	rising	6 14 a.m.	setting	5 47 p.m.	setting	3 21 a.m.
Mar. 1.....	rising	4 6 a.m.	rising	5 49 a.m.	rising	6 19 a.m.	setting	2 25 a.m.
Mar. 15.....	rising	4 7 a.m.	rising	5 22 a.m.	rising	5 32 a.m.	setting	1 32 a.m.
Apr. 1.....	rising	3 57 a.m.	rising	4 45 a.m.	rising	4 34 a.m.	setting	0 29 a.m.
Apr. 15.....	rising	3 44 a.m.	rising	4 14 a.m.	rising	3 46 a.m.	setting	11 35 p.m.
May 1.....	rising	3 27 a.m.	rising	3 38 a.m.	rising	2 50 a.m.	setting	10 38 p.m.
May 15.....	rising	3 10 a.m.	rising	3 7 a.m.	rising	2 2 a.m.	setting	9 51 p.m.
June 1.....	rising	2 54 a.m.	rising	2 31 a.m.	rising	1 1 a.m.	setting	8 53 p.m.
June 15.....	rising	2 46 a.m.	rising	2 2 a.m.	rising	0 10 a.m.	setting	8 5 p.m.
July 1.....	rising	2 50 a.m.	rising	1 32 a.m.	rising	11 5 p.m.	rising	4 4 a.m.
July 15.....	rising	3 6 a.m.	rising	1 9 a.m.	rising	10 12 p.m.	rising	3 18 a.m.
Aug. 1.....	rising	3 37 a.m.	rising	0 43 a.m.	rising	9 5 p.m.	rising	2 20 a.m.
Aug. 15.....	rising	4 11 a.m.	rising	0 25 a.m.	rising	8 8 p.m.	rising	1 33 a.m.
Sept. 1.....	rising	4 53 a.m.	rising	0 6 a.m.	rising	6 58 p.m.	rising	0 34 a.m.
Sept. 15.....	setting	6 3 p.m.	rising	11 51 p.m.	rising	5 50 p.m.	rising	11 41 p.m.
Oct. 1.....	setting	5 43 p.m.	rising	11 31 p.m.	setting	4 27 a.m.	rising	10 43 p.m.
Oct. 15.....	setting	5 27 p.m.	rising	11 16 p.m.	setting	3 24 a.m.	rising	9 50 p.m.
Nov. 1.....	setting	5 15 p.m.	rising	10 52 p.m.	setting	2 11 a.m.	rising	8 44 p.m.
Nov. 15.....	setting	5 13 p.m.	rising	10 28 p.m.	setting	1 14 a.m.	rising	7 48 p.m.
Dec. 1.....	setting	5 26 p.m.	rising	9 54 p.m.	setting	0 14 a.m.	rising	6 41 p.m.
Dec. 15.....	setting	5 50 p.m.	rising	9 16 p.m.	setting	11 21 p.m.	rising	5 42 p.m.

Eclipses, 1915.

In 1915 there will be two eclipses, both of the sun and both annular.

I. Annular eclipse of the sun February 13. Not visible in the United States. The line of centrality runs from longitude 3h. E. lat. 36° S. to longitude 12h. E. lat. 13° N. through Australia and New Guinea. Visible as a partial eclipse in southeastern Africa, Madagascar, southeastern Asia, Borneo, Java, Philippine Islands, and Eastern Japan.

II. Annular eclipse of the sun August 10. Not visible in the United States. The line of centrality runs from longitude 8h. E. lat. 23° N. to longitude 7h. W. lat. 22° S. through Pacific Ocean near Honolulu. Visible as a partial eclipse in Siberia, Japan, China, Philippine Islands, New Guinea, Sandwich Islands, Hawaiian Islands and the extreme western part of Alaska.

WANTED—Public sentiment that will value men as highly as animals, that will give to the next generation a heritage of clean blood and good hope, that will not leave men to die unattended and alone, but that will remember man lives but once on earth and should be happy while he lives.

WANTED—A record of every life, that the children of a century hence may know who were their forbears and what manner of men they were and where they lived and labored. Apply to the DIVISION OF VITAL STATISTICS, STATE BOARD OF HEALTH, TOPEKA.

WANTED—Lovers of childhood to rear children at least as carefully as they rear calves, to care for their own offspring and to protect the wards of the state—to remember that childhood is sacred and must be protected as the immortality of the state.

LOST—The art of living, known also as kinship with nature. Vanished when men put money above life and sold their bodies and the bodies of their fellows to enrich their purses.

FOR SALE—Good health to the consumptive. Can be had at less than cost among surroundings which insure fresh air, good food, careful attention and rest, at STATE SANATORIUM, NORTON, KAN.

PUBLIC WARNING—All persons are warned not to give any credit to my husband, Mr. Careless Citizen, from whom I am endeavoring to procure a full divorce and for whose debts I will not be responsible. If the said Citizen uses my name, he should be given no credence. (Signed) Mrs. Kansas.

NOTICE OF PARTNERSHIP—From and after this date, the undersigned are associated together in a permanent partnership, to which both parties have contributed. The party of the first part has given a glorious past, a noble citizenship, a splendid tradition, and an unsullied lineage. The party of the second part, coöperating with the forces of good health, good roads, good farming, good schools, good books and good morals, promises a blessing to the future and greatness yet undreamed.

(Signed) KANSAS, party first part.

GOOD HEALTH, party second part.

FOR DISTRIBUTION—Literature on the varied aspects of public health. Smallpox, Diphtheria, Typhoid Fever, Whooping Cough and Measles. The Care of Infants, The Sanitary Privy, Vital Statistics, The Fly, Tuberculosis, Sewage Disposal, and Cancer are among the subjects treated in popular bulletins. Sent free to anyone upon request. Citizens may procure our bulletins monthly by forwarding their names and addresses to the STATE BOARD OF HEALTH, TOPEKA, KAN.

—Suggested by Virginia Almanac.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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CONTENTS.

Morbidity Statistics—November	2
Morbidity Statistics—December	4
Meeting of Kansas State Board of Health.....	6
Wellsville or Preston?.....	7
Report of Division of Food and Drugs.....	8
Drug Analysis LI.....	13
Some Troubles of the Health Officer.....	21
Feeble-mindedness as a Constitutional Anomaly.....	22
Stopped Typhoid in Army.....	23
A Study of Fruit Jar Caps.....	24
The Fresh Air Cure.....	26
Please Pass "The Jolly".....	26
Common Colds and Their Cause.....	27
The "Movies" and the Eyes.....	28
What Makes People Blind.....	29
The Fifth Annual School for Health Officers and Physicians.....	31
What is a Child Worth.....	32

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Work is the only patent royal to nobility.

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Eugenics is the science of falling in love intelligently.

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"America has organized itself so that only vice has bred poverty; it is now organizing itself so that vice shall be extirpated."

MORBIDITY STATISTICS — Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Measles.....	Smallpox.....	Whooping cough....	Meningitis.....	Pellagra.....	Potomycetis.....	Mumps.....	Chicken pox.....	Other communicable diseases.....	Trachoma.....
Logan.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon.....	3	1	0	1	1	3	0	0	0	0	0	0	0
Marion.....	2	0	0	0	0	1	0	0	0	0	0	0	0
Marshall.....	2	2	0	0	0	0	0	0	0	0	0	0	0
McPherson.....	6	1	0	0	0	0	0	0	0	0	0	0	0
Meade.....	1	1	1	0	0	0	0	0	0	0	0	0	0
Miami.....	3	1	4	0	0	0	0	0	0	0	0	0	0
Mitchell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	13	13	3	0	0	2	0	0	0	0	0	1	0
Morris.....	0	0	0	0	0	0	0	0	1	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	1	0	1	0	24	1	0	0	0	0	0	0	0
Neosho.....	11	18	0	0	0	0	0	0	0	0	1	0	0
Ness.....	2	0	2	0	0	0	0	0	0	0	0	0	0
Norton.....	1	0	4	0	0	0	0	0	0	0	0	0	0
Osage.....	0	3	0	0	0	1	0	0	0	0	0	4	0
Osborne.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Ottawa.....	0	0	1	0	0	87	0	0	0	0	0	0	0
Pawnee.....	0	0	0	0	5	0	0	0	0	0	0	0	0
Phillips.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Pottawatomie.....	0	1	9	0	0	0	0	0	0	0	0	0	0
Pratt.....	3	0	0	0	0	0	0	0	0	0	0	0	0
Rawlins.....	2	1	0	0	0	0	0	0	0	0	0	0	0
Reno, except Hutchinson.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Republic.....	12	10	0	0	0	1	0	0	0	0	0	0	0
Rice.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Riley.....	12	1	0	0	2	0	0	0	0	0	1	2	0
Rooks.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Rush.....	3	0	0	0	0	0	0	0	0	0	0	0	0
Russell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Saline*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Scott.....	0	0	0	0	9	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	1	0	4	1	4	1	0	0	0	0	0	0	0
Seward.....	3	7	7	1	13	0	0	0	0	0	10	0	0
Shawnee, except Topeka.....	1	0	0	0	0	0	0	0	0	0	18	1	0
Sheridan.....	1	4	2	0	0	0	0	0	0	0	0	0	0
Sherman.....	3	37	12	2	0	0	0	0	0	0	18	0	0
Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Stafford.....	3	0	0	0	0	0	0	0	0	0	0	0	0
Stanton*.....	1	1	1	0	0	0	0	2	0	0	0	0	0
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	3	5	0	0	4	0	0	0	0	0	1	0	0
Thomas.....	3	7	0	0	0	1	0	0	0	0	0	0	0
Trego.....	0	1	6	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Wallace.....	1	0	0	0	1	0	0	0	0	0	0	0	0
Washington.....	4	0	1	0	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	3	6	1	0	0	0	0	0	0	0	0	0	0
Woodson.....	1	9	0	0	0	0	0	0	0	0	0	1	0
Wyandotte, except Kansas City.....	1	5	0	0	0	0	0	0	0	0	18	0	0
	7	59	4	2	0	1	0	0	0	0	0	1	0

* No report.

MORBIDITY REPORTS FOR DECEMBER, 1914.

Number of cases reported from each county.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pellagra.....	Polio-myelitis.....	Mumps.....	Chicken pox.....	Trachoma.....	Other communicable diseases.....
THE STATE.....	124	285	100	329	83	61	3	2	4	38	113	5	23
Allen.....	2	7	0	0	1	0	0	0	1	0	0	0	0
Anderson.....	1	1	0	1	0	0	0	0	0	0	0	0	0
Atchison, except.....	0	0	0	0	0	0	0	0	0	0	1	0	0
Atchison city.....	1	1	2	0	0	0	0	0	0	0	1	0	0
Barber*.....													
Barton.....	1	1	0	2	0	0	0	1	0	0	0	0	0
Bourbon, except.....	1	2	0	0	0	0	0	0	0	0	0	0	0
Fort Scott.....	1	1	0	0	0	0	0	0	0	0	0	0	0
Brown.....	4	0	0	0	1	1	1	0	0	0	0	0	0
Butler.....	3	2	1	25	4	2	1	1	0	0	2	0	5
Chase.....	0	2	0	1	2	0	1	0	0	0	0	0	0
Chautauqua.....	0	6	2	0	0	0	1	0	0	0	1	0	0
Cherokee.....	3	8	0	23	0	0	0	0	0	0	0	0	0
Cheyenne.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Clay.....	0	1	0	0	0	3	0	0	0	1	2	0	0
Cloud.....	1	0	2	0	0	0	0	0	0	2	0	0	0
Coffey.....	0	2	2	0	0	0	0	0	0	0	0	0	0
Comanche.....	1	0	3	19	0	0	0	0	0	0	0	0	0
Cowley.....	4	5	1	1	0	0	0	0	0	0	4	0	0
Crawford, except.....	1	5	0	1	0	5	0	0	0	0	2	0	0
Pittsburg.....	0	5	2	0	0	3	0	0	0	0	0	0	0
Decatur.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Dickinson.....	0	3	0	0	0	0	0	0	0	0	0	0	0
Doniphan.....	7	0	0	0	0	0	0	0	0	0	0	0	2
Douglas.....	2	2	3	0	0	1	0	0	0	4	0	0	0
Edwards.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Elk.....	2	4	3	1	0	0	0	0	0	0	0	0	0
Ellis.....	1	2	0	0	0	0	0	0	0	0	0	0	0
Ellsworth.....	2	5	0	0	0	0	0	0	1	0	4	0	0
Finney.....	0	0	0	16	0	0	0	0	0	0	0	0	0
Ford.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Franklin.....	1	5	0	1	0	0	0	0	0	0	0	0	0
Geary.....	0	0	2	0	0	0	0	0	0	0	0	0	1
Gove.....	0	0	0	0	0	0	0	0	0	0	1	0	0
Graham.....	0	0	1	0	0	4	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray.....	1	0	10	1	1	0	0	0	0	0	0	0	0
Greeley.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood.....	2	3	10	1	8	0	0	0	0	1	0	0	1
Hamilton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Harper.....	2	2	0	9	0	0	0	0	0	0	0	0	0
Harvey.....	0	5	0	0	0	0	0	0	0	0	5	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackson.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Jefferson.....	0	4	1	0	0	0	0	0	0	0	1	0	0
Jewell.....	1	0	0	0	0	0	0	0	0	0	0	0	1
Johnson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Kearny.....	4	0	0	0	0	1	0	0	0	0	0	0	0
Kingman.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Kiowa.....	1	5	0	2	0	1	0	0	0	0	0	0	0
Labette, except*.....													
Parsons.....	0	24	0	0	2	0	0	0	0	0	1	0	0
Lane.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Leavenworth, except.....	2	4	1	0	0	0	0	0	0	1	14	0	0
Leavenworth city.....	0	4	0	0	0	1	0	0	0	0	18	0	1
Lincoln.....	0	1	0	0	0	1	0	0	0	0	0	0	0
Linn.....	0	2	0	0	0	0	0	0	0	0	0	0	0

* No report received.

MORBIDITY REPORTS FOR DECEMBER, 1914—Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pollagra.....	Polionmyelitis.....	Mumps.....	Chicken pox.....	Trachoma.....	Other communicable diseases.....
Logan*													0
Lyon.....	2	6	2	0	3	2	0	0	0	0	0	0	0
Marion.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Marshall.....	2	0	1	0	1	0	0	0	0	0	0	0	0
McPherson.....	1	3	0	2	0	0	0	0	0	0	0	0	0
Meade.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Miami.....	0	1	5	0	0	0	0	0	0	0	0	0	0
Mitchell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Montgomery, except.....	7	4	1	3	0	0	0	0	0	0	0	0	0
Coffeyville.....	5	1	0	0	0	2	0	0	0	0	0	0	0
Morris.....	1	1	0	0	0	5	0	0	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	2	0	3	0	0	1	0	0	0	0	0	0	0
Neosho.....	1	18	1	0	1	1	0	0	0	1	11	0	0
Ness.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Norton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Osage.....	0	4	2	0	1	0	0	0	0	0	0	0	0
Osborne.....	0	0	0	0	0	0	0	0	0	0	0	0	2
Ottawa.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Pawnee.....	2	0	0	2	0	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	4	0	0	0	0	0	0	0	0	0	0
Pratt.....	0	0	0	6	0	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	6	0	0	0	0	0	0	0	0	0
Reno, except.....	1	0	2	1	0	0	0	0	1	0	0	0	0
Hutchinson.....	2	14	1	0	0	0	0	0	0	0	0	0	0
Republic.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Rice.....	1	1	0	1	0	0	0	0	0	0	1	0	5
Riley.....	7	0	2	0	0	1	0	0	0	0	0	0	0
Rooks.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Rush.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Russell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Saline*													
Scott.....	0	0	0	3	0	0	0	0	0	0	0	0	0
Sedgwick, except.....	0	0	5	11	0	0	0	0	0	0	4	0	0
Wichita.....	0	6	0	15	2	3	0	0	0	2	6	4	1
Seward.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Shawnee, except.....	2	6	2	0	0	0	0	0	0	0	0	0	0
Topeka.....	1	26	1	1	1	0	0	0	0	0	3	0	0
Sheridan.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sherman.....	0	0	0	0	0	0	0	0	0	0	1	0	0
Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Stafford.....	0	0	0	4	0	0	0	0	0	0	0	0	0
Stanton*													
Stevens*													
Sumner.....	5	5	0	13	0	0	0	0	0	0	3	0	4
Thomas.....	0	1	0	0	0	0	0	0	0	1	4	0	0
Trego.....	0	0	8	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	2	0	0	0	0	0	0	0	0	0
Washington.....	2	1	0	0	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	17	18	2	0	3	0	0	0	0	0	2	1	0
Woodson.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Wyandotte, except.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Kansas City.....	3	42	8	0	1	0	0	0	0	0	7	0	0

**KANSAS STATE BOARD OF HEALTH,
Topeka, Kan.**

At a regular meeting of the Kansas State Board of Health, held in Topeka, Kan., December 18, 1914, at which a quorum was present, the following amendments were unanimously adopted to regulation 35 of the Kansas food and drug law, and ordered to be printed in the official state paper:

REGULATION 35.

I. ANIMAL PRODUCTS.

A. Meats.

b. MANUFACTURED MEATS: Paragraph 3 was revised to read as follows:

Mince, Mince Meat, Condensed Mince Meat, is a mixture of several or all of the following-described ingredients: Cooked comminuted meat, chopped suet, apple and other fruit, salt, spices, sugar, syrup, glucose, first molasses, vinegar, spiritous liquors, and either fresh, concentrated or fermented fruit juices. The names of all of the constituents must be stated upon the label.

B. Milk and Its Products.

a. MILKS: Paragraph 6 was amended to read as follows:

Condensed Milk, Evaporated Milk, Concentrated Milk, is the product resulting from the evaporation of a considerable portion of the water from the whole, fresh, clean, lacteal secretions, obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and ten days after calving, and contains not less than twenty-five and five-tenths (25.5) per cent of total solids and not less than seven and eight-tenths (7.8) per cent of milk fat.

II. VEGETABLE PRODUCTS.

B. Fruits and Vegetables.

a. FRUIT AND FRUIT PRODUCTS: Paragraphs 10, 11 and 13 were amended to read as follows:

10. *Fruit Butter* is the sound product made from fruit juice and clean, sound, properly matured fruit or fruits, evaporated to a semi-solid mass of homogeneous consistence, with the addition of sugar, spices or vinegar, and conforms in name to the fruit or fruits used in its preparation.

11. *Glucose Fruit Butter* is fruit butter in which a glucose product is used wholly or in part in place of sugar (sucrose).

13. *Glucose Jelly* is jelly in which a glucose product is used wholly or in part in place of sugar (sucrose).

Paragraph 3 was amended to read as follows:

3. *Evaporated Apples* are the evaporated fruit made from peeled and cored apples, and contain not more than twenty-five (25) per cent of moisture by the usual method of drying for four hours at the temperature of boiling water.

A new paragraph is added to this same section, to be known as paragraph 15, which reads as follows:

15. *Oranges* are considered to be immature if the juice does not contain soluble solids equal to, or in excess of, eight (8) parts to every part of acid contained in the juice, the acidity of the juice to be calculated as citric acid without water of crystallization.

I hereby certify that the above is a true copy of the amendments adopted to Regulation 35. S. J. CRUMBINE, *Secretary*.

Wellsville or Preston—Where Would You Rather Raise Your Boys and Girls?

A contrast—and its chief cause—is shown by the cases of Preston, Pa., and Wellsville, Kan. The Pennsylvania town is said to be the “wickedest in America.” Four hundred and twenty-five of its five hundred inhabitants drink whisky, and four hundred and fifteen of the four hundred and twenty-five are said to get drunk regularly. Wellsville, the Kansas town, is forty-four years old, has a population of 750, and has never had a saloon in its history. It has never had a case of statutory assault or of murder; a pauper, a thief, or a lawyer. Of course its inhabitants are not all saints, but they have no pool rooms and no bawdy houses. There is a \$25,000 schoolhouse, set down on a sixty-acre playground. There are brick and cement sidewalks, and brilliant street lights at all crossings. Everybody in town works hard except the town marshal. Once an agent for a mail-order liquor house visited Wellsville, but before he had booked any orders fifteen feminists armed with horsewhips marched to his hotel—and the salesman departed minus his sample case.

Would you rather buy real estate in Preston, Pa., or in Wellsville? Would you rather bring up a family in the “wickedest town in America,” or in the Kansas community? —*Rene Laidlaw in September Lippincott's.*

DEFINITION OF A GENTLEMAN.—A gentleman is clean inside and out—a man who looks neither down to the poor nor up to the rich; who is considerate of women, of children and of everybody; who is too generous to cheat and too brave to lie; who takes his share of the world and lets others have theirs; who can win without bragging and lose without squealing.

Report of the Division of Food and Drugs, Kansas State Board of Health.

FOR NOVEMBER AND DECEMBER, 1914.

LEON A. CONGDON, B. S., Chief of Division.

During the months of November and December, 1914, our traveling inspectors have visited 214 cities and towns in various parts of the state. The total number of places inspected during these two months was 1584.

The following table gives the inspections for November and December, 1914:

SUMMARY OF SANITARY INSPECTIONS FOR NOVEMBER AND DECEMBER, 1914.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary condition.			
		Good.	Good to fair.	Fair.	Poor.
Meat market.....	100	41	6	48	5
Grocery.....	554	219	41	291	3
Grocery and meat.....	104	24	18	66	1
Meat, fish and poultry.....	2			2	
Bakery.....	96	39	9	47	3
Meat peddler.....	1				
Grocery and bakery.....	8	2		5	1
Grocery, meat and feed.....	1			1	
Grocery, meat and fish.....	1			1	
Bakery and restaurant.....	6	3		2	1
Bakery and confectionery.....	1	1			
Meat and confectionery.....	2		1	1	
Grocery and feed.....	1			1	
Restaurant food display.....	13	4		3	6
Tea and coffee store.....	7	5		2	
Confectionery.....	30	18	5	7	
Bottling works.....	17	13	2	2	
Cream station and bottling works.....	2	2			
Fountain at restaurant.....	23	8	2	13	
Fountain at confectionery.....	1	1			
Fountain at cigar stand, pool hall, etc.....	20	12	2	6	
Ice cream parlor.....	1	1			
Cream station.....	1	1			
Slaughterhouse.....	29	10		18	1
Drug store.....	280	138	83	107	2
Doctor's dispensary stock.....	11	5	2	4	
Patent medicine stock.....	8	6		2	
Drug manufacturer.....	1	1			
Linseed oil manufacturer.....	1	1			
Ice cream manufacturer.....	10	8	1	1	
Vinegar and cider manufacturer.....	1	1			
Extract manufacturer.....	1	1			
Butter manufacturer.....	1	1			
Ice manufacturer.....	1	1			
Wholesale grocery.....	6	2		4	
Wholesale drugs.....	1	1			
Produce.....	2	2			
Packing house.....	1			1	
Flour mill.....	50	50			
Feed mill.....	6	3	2	1	
Alfalfa mill.....	1	1			
Feed store.....	5	5			
Elevator.....	3	3			
Linseed oil inspections.....	11				
Special weights and measure inspections.....	13				
Special egg inspections.....	11				
Special food exposure inspections.....	51				
Special sweet potato inspections.....	5				
Special chicken inspections.....	19				
Miscellaneous, not classed.....	63				
Totals	1,584	631	116	637	23

Per Cent of Sanitation.

(Exclusive of linseed-oil inspections, special inspections, and miscellaneous not classed.)

45.33 per cent good.

7.74 per cent good to fair.

45.06 per cent fair.

1.87 per cent poor.

The following table gives the results of analysis of food and drugs reported to this division during the months of November and December, 1914:

FOOD.					DRUGS.				
KIND OF SAMPLE.	Number	Passed	Misbranded.	Adulterated.	KIND OF SAMPLE.	Number	Passed	Above stan- dard	Below stan- dard
Asparagus (canned)	12	4		8	Aspirin tablets (5 gr.)	5	2		3
Apples	1	1			Aspirin compound tablets (as declared)	1	1		
Apple butter	14	11	2	1	Acetyl salicylic acid tablets (5 gr.)	3			3
Peach butter	1	1			Acid, hydrochloric dilute	1		1	
Baking powder	5	2		2	Camphor, spts. of	1			1
Catsup (tomato)	33				Castor oil	3	3		
Ciders	9	1	8		Castor oil, aromatic	2	2		
Imitation cider	2		1	1	Cod liver oil	2	2		
Cocoa	2	1		1	Calcined magnesia	2	1		1
Boiled chicken	1			1	Essence of pepsin	1	1		
Evaporated fruits	13	5		8	Tr. of iodine	1			1
Extract of almond	1				Sweet spts. of nitre	1			1
Extract of lemon	2	2			"Optons"	1			
Flour (pancake)	6	4		2	"Oliphane," liq. petrolatum	1	1		
Flour (graham)	1	1			Linseed oil (boiled)	1			1
Ginger (ground)	14	12	2		Linseed oil (raw)	4	4		
Honey	1	1			Turpentine	2	2		
Hominy (lye)	1	1							
Ice cream	1			1					
Jelly (apple)	1	1							
Kipperd herring	1	1							
Orangeade	1		1						
Oysters (fresh)	2	2							
Pickles	13	2		11					
Plum preserves	1		1						
Rice	2	2							
"Roman meal"	1		1						
Salad oil	1		1						
Sardines in oil	14	12		2					
Vinegar	3	2		1					
Total	160	102	17	39	Total	32	19	1	11

Eight samples of canned asparagus were declared illegal in that there was an excess of tin found in the contents; also, two samples of sardines in oil were declared illegal for the same reason.

Two brands of apple butter were declared misbranded because of short weight. Another sample of apple butter was illegal in that glucose or corn syrup was found in this product, and was not so labeled. A sample of apple butter from the same shipment, as reported in a previous report as coming from Reid, Murdoch & Company, Chicago, Ill., and which was sent to the State Home for the Feeble-minded, Winfield, Kan., has been examined by our analyst. This sample was passed.

Two samples of baking powder were declared adulterated in that they contained only 5.58 per cent and 8.93 per cent available carbon dioxide, when they should have contained at least 10 per cent available carbon dioxide. These brands of baking powder were the Lee and Pure Quill, respectively, and were put out by the H. D. Lee Mercantile Company.

Eight samples of various brands of so-called ciders were declared illegal on account of containing alcohol in such proportion as to be intoxicating, and misbranded because they should have been labeled as fermented products. One sample of imitation cider was misbranded and illegal in that it contained alcohol in such proportion as to be intoxicating; also, the word "cider" was in large type, and in an inconspicuous place labeled in very small type "imitation." One sample of imitation cider was adulterated in that it contained tartaric acid, which is not permitted to be added to such products or soft drinks. This same sample contained alcohol in such a proportion as to be intoxicating.

One sample of cocoa was declared adulterated in that the analysis indicated added cocoa shell. The odor and flavor of the cocoa was poor. This was a bulk sample taken from a package labeled "100 lbs. Hershey's Cocoa (powdered)," and was obtained by our inspector from a retailer, C. A. Amermans, Kingman, Kan., sample being jobbed through the Chase & Son Mercantile Company, St. Joseph, Mo.

The eight samples of evaporated fruits were declared illegal in that they contained excessive amounts of sulphur dioxide.

Two samples of Lee Brand pancake flour were declared adulterated in that they consisted in part of a decomposed and foreign substance, to wit, dead and live larvæ and flour beetles and other material. Two samples of ground ginger were found, according to analyses, not standard.

One sample of ice cream made by the G. G. Grier Hotel Co., McFarland, Kan., was declared adulterated in that it contained less than 14 per cent milk fat. A prosecution was obtained in this case, and the defendant paid a fine of \$5 and \$11.25 costs.

One sample of "Glidden's Orangeade Mixture" was declared misbranded on account of improper labeling. "Imitation Orangeade Mixture" would express the truth.

Ten samples of pickles were adulterated in that they contained a foreign substance in the shape of alum, which is prohibited in pickles and relishes to be sold in this state. One sample of pickles was misbranded in that benzoate of soda was present and the retail package did not state its presence.

One sample of so-called "Plum Preserve" was declared misbranded in that the word "Mixture" or "Compound" and not "Preserve" should be made the conspicuous part of the label; since the product is labeled in large letters "Plum Preserves," and then in very much smaller letters "Made with approximately 45 per cent corn syrup, 35 per cent fruit and juice from apple trimmings and 20 per cent granulated sugar. Contains phosphoric acid."

The sample of "Roman Meal" declared misbranded was so declared because of short weight.

The salad oil declared misbranded did not conform to our standard for such product.

One sample of vinegar was found illegal in that it was below the standard for cider vinegar. On tracing the origin of this vinegar it was ascertained that a mistake had been made by the manufacturer's help in bottling the product which had not been put through the generator or had not reached the stage to be called vinegar. Lyon Orchard Company, Admire, Kan., were the manufacturers. This product was shipped back to the manufacturers, on their request to the retailer from whom the sample was obtained.

The aspirin and acetyl salicylic-acid tablets declared below standard were so declared because the amount stated on the label did not conform to the amount found by our analyst.

The diluted hydrochloric acid was not passed, as it was above the standard for such preparation, or, in other words, greater in strength than allowable for such named product.

The spirits of camphor not passed was below the standard required by the U. S. P.

One sample of calcined magnesia was declared substandard since it contained an excess of carbon dioxide and water of hydration.

The tincture of iodine was declared adulterated in that it was below the standard as laid down in the U. S. P.

One sample of sweet spirits of nitre was found below standard in that it exceeded the limit of acidity and was low in per cent of ethyl nitrite as required by the U. S. P.

The boiled linseed oil not passed did not dry in 20 hours as required by our linseed-oil law.

Our inspectors during the months of November and December, 1914, have examined 1234 scales, 3779 weights, and 924 druggist's graduates or measures. They have condemned five scales and sixteen weights.

The following prosecutions were reported to this office from the county attorneys to whom the cases were referred:

REPORTED SEPTEMBER, 1914.

Lake Superior Lumber Co., Kanapolis. Boiled linseed oil; September 1, 1913; department concluded to drop case, since investigation showed dealer not entirely to blame.—R.

Dr. J. B. Showers, Richfield. Illegal keeping for sale adulterated essence of peppermint; August 22, 1913; dropped on advice of county attorney.—R.

The Orpheum Pharmacy (C. L. Walkenwitz), Leavenworth. Adulterated sweet spirits of nitre; August 13, 1913; no action taken by county attorney.—R.

J. J. Grier Hotel Co., McFarland. Adulterated and misbranded ice cream; December 12, 1912; manager for party now out of business at this place and no previous action taken by county attorney.—R.

REPORTED NOVEMBER, 1914.

John Aden (St. Francis Pharmacy), Wichita. Illegal spirits of camphor; October 22, 1913; \$10 and costs—\$15.95.—D.

J. J. Grier Hotel Co., McFarland. Manufactured ice cream which was adulterated in that it contained less than 14 per cent milk fat; November 6, 1914; \$5 and \$11.25 costs.—I.

Emmett Drug Co., Emmett. Substandard and adulterated sweet spirits of nitre; June 2, 1914; \$1 fine and \$5.15 costs paid.—R.

REPORTED DECEMBER, 1914.

John Ward, manager hardware department of Dunkel Department Store, Hoyt. Adulterated raw linseed oil; September 14, 1914; \$10 and \$6.15 costs.—R.

H. H. Hoffman, proprietor of Sunflower Creamery Co., Concordia. Sale of short-weight butter; December 14, 1914; \$5 and \$5.50 costs.—R.

WRITTEN ORDERS.

It might be of interest to the public to know the number of written orders for the past six months given by our traveling inspectors and checked up by the division of food and drugs. During July the number of written orders was 27; August, 42; September, 30; October, 42; November, 22; and December, 35; making a total for the past six months of 198 written orders.

We have received drug analyses No. LI from our drug laboratory. This gives the analytical detail on drug samples submitted by our drug inspectors to the laboratory since the last printed report from our drug laboratory.

Drug Analyses LI.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst;
C. M. STERLING, Microscopist.

In submitting the present report, the director desires to call attention to some general information relating to the products which are claimed to contain enzymes or ferments, such as pepsin, diastase, pancreatin, trypsin, etc. Investigations made by the Bureau of Chemistry of the Department of Agriculture have shown that manufacturers frequently employ a sufficient quantity of enzymic material which they claim to use. In many cases, however, no attempt is made to determine whether or not the material used is really active, or, if this determination is made, the degree of activity of the material is not ascertained. Injudicious combinations of various enzymes are also made; for example, of pepsin and trypsin in liquid media. The activity of pepsin is destroyed in alkaline media and that of trypsin is acid media.

"The method of manufacture is sometimes faulty. For example, the formula will direct the use of a certain amount of pepsin, then specify that heat be applied, the heat being sufficiently high in some instances to destroy the enzyme. In preparations of the character under consideration, enzymes will not withstand more than a moderate degree of heating, especially in the presence of moisture.

"Liquid preparations are at times met with containing substances which will either destroy or impair the action of enzymes. Some enzymes are destroyed in alkaline media, others in acid media. Alcohol has long been recognized as possessing either retarding or destructive influences on many enzymes. The efficiency of pepsin in pepsin tablets is frequently impaired in the process of granulation.

"Some manufacturers are aware of the fact that conditions of keeping are important factors in maintaining the activities of enzymes. Directions covering these points are placed upon the labels of certain commodities. This practice, however, is not very generally employed. The result is that

in many cases the preparations are kept so long in storage or upon the shelf that by the time they reach the consumer they possess little, if any, digestive activity.

"This notice is intended as a warning that preparations claiming to contain digestive enzymes should be put up in such a way that they will have suffered little, if any, loss of activity when sold to the consumer. In the case of preparations which are liable to deterioration within a few months, it is suggested that each lot should be dated and replaced by a new lot if not sold within a certain definite time."

STANDARD FOR GINGER.

Our laboratory investigations on this class of spices have brought out that the standard for the same could be improved to advantage, but it is not advisable to change this standard until the U. S. P. IX has been issued and has been authorized as official.

SPIRITS OF NITRE.

It is gratifying to note that the market supply of this frequently used preparation is improving in quality. Most of the samples coming to the laboratory are within a reasonable limit. Care should be exercised in making this preparation by dilution from the concentrated spirit. It should be borne in mind that both the concentrated liquid and the alcohol (diluent) should be chilled in ice before mixing. Precautions are sometimes taken by opening the concentrated liquid under alcohol so as to prevent evaporation of the very volatile ethyl nitrite. The Pharmacopœia directs that this article should be kept in small, well-stoppered amber-colored vials in a cool place remote from lights or fires. We have seen bottles of spirits of nitrate exposed in drug stores to the direct rays of the sun. This should be avoided.

NITROGLYCERIN TABLETS.

Lab. No.	Insp. No.	NAME.	City.	Grammes glycerin per tablet.
6442	100,020	Malthie Chemical Company	Newark, N. J.	74.10000
6461	100,023	The City Pharmacy	Haddam	11.1000
6498	100,030	J. Janeway	Haddam	Destroyed in transit.

PEPSIN GUM.

Lab. No.	Insp. No.	BRAND.	Pepsin.
6441	100,013	Smith's Mello Mint	Negative test.
6443	100,021	Greenwood	Negative test.
6465	100,026	Kis Me	Positive test.

Lab. No. 6446, Insp. No. 20942. "Powdered Asafoetida." Eckstrand Drug and Book Store, Salina, Kan. Contained ash, 24.05 per cent; alcohol soluble matter, 55.4 per cent. The ash should not exceed 15 per cent; alcohol soluble matter, not less than 50 per cent.

Lab. No. 6448, Insp. No. 20944. "Compound Licorice Powder." National Drug Company, Salina, Kan. Volatile matter at 100° C., 8.5 per cent; sugar, 44.8 per cent; sulphur, 4.75 per cent. Senna, glycyrrhiza and oil of fennel were present.

Lab. No. 6456, Insp. No. 20954. "Citric Acid." Salina Bottling Works. Consists mainly of tartaric acid with small amount of citric acid.

Lab. No. 6459, Insp. No. 20958. "Essence of Peppermint." Solomon Drug Company, Solomon. Contained 9.2 cc. of oil in 100 cc. of the essence. Passed.

Lab. No. 6473, Insp. No. 80427. "Liquid Phenol." C. C. Dunlap, Wichita. Contained 87 per cent absolute phenol. Passed.

Lab. No. 6485, Insp. No. 80,439. "Tincture Gentian Compound." Manhattan Drug Co., Wichita. Contained alcohol, 53.3 per cent; extractive, 5.32 per cent. Passed.

Lab. No. 6490, Insp. No. 20962. "Fluid extract Cocoa, U. S. P." Kandt's Drug Store, Herington. Contained ether soluble alkaloids per 100 cc., 0.191 grammes. Should contain 0.5 grammes ether soluble alkaloids per 100 cc. Illegal.

Lab. No. 6499, Insp. No. 20979. "Powdered Blistering Flies (Chinese cantharides)." J. T. Searles, Wetmore. Sample was not Chinese Blistering Flies (*Mylabris*). It was possibly a mixture of cantharis and *Mylabris*. Sample was wormy.

Lab. No. 6517, Insp. No. 20986. "Dilute Hydrochloric Acid." Robinson Pharmacy, Miltonvale. Contains 13.14 per cent hydrochloric acid. Residue from 10 cc., .0038; negative test for iodides, bromides, sulphates, sulphites and arsenic.

Lab. No. 6439, Insp. No. 80419. Beer submitted by county attorney, Edwards county. Contained alcohol, 4 $\frac{1}{4}$ per cent.

Lab. No. 6449, Insp. No. 20945. Nitroglycerin Comp. Tablets. J. O. Stockenberg, Lindsborg. Contained .0012 grain per tablet.

Lab. No. 6453, Insp. No. 20950. Liniment. R. J. Cassidy, Russel. Contained small amount of camphor and capsicum dissolved in lower boiling portions of petroleum. Four-fifths distilled between 50° and 140°.

Lab. No. 6455, Insp. No. 20952. Crude Pyroligneous Acid. F. L. Joy, Luray. Contained acetic acid, 4.88 per cent. Methyl alcohol present.

Lab. No. 6486, Insp. No. 100028. Sweet Powders for Children. Submitted by Miss Margaret Bullene, Topeka, Kan. Contained sugar, glycyrrhiza and small amount of phosphate. Bitter principle, not alkaloidal, present. Sample too small for analysis.

Lab. No. 6495, Insp. No. 20973. Sarsaparilla and Dandelion Compound. A. C. Brown, Osage. Specific Gravity of preparation, 1.0030. No alcohol and no alkaloids detected. Contained sodium and methyl salicylate. Emodin present. Total solids per 100 cc., .606 grammes.

Lab. No. 6516, Insp. No. 20985. Aspirin Compound. E. O. Quenelle, Aurora. Contained ether soluble matter, 6.327 per cent. Aspirin per tablet, 3.94 per cent.

Lab. No. 6520, Insp. No. 20985. Optona. (Eye Remedy.) Sorgetz Pharmacy and Book Store, Concordia. Contained sodium bicarbonate, 7.65 per cent; borax, 92.3 per cent.

Lab. No. 6538, Insp. No. 80445. Oliphane. Bixby and Lindsay. McPherson. Specific gravity, .875. Sample had slight fluorescence. Completely volatilized on heating. Contained no saponifiable matter. Insoluble in alcohol. Soluble in boiling absolute alcohol. Responds to tests for U. S. P. Liquid petrolatum.

Lab. No. 6541, Insp. No. 100042. Boiled Chicken. Suspected to contain strychnine. Strychnine was detected.

Lab. No. 6554, Insp. No. 5210. Pape's Cold Compound. Contained acetanilid, sugar, phenolphthalein and corn starch.

TINCTURE OF IODINE.*

Lab. No.	Insp. No.	NAME.	City.	Grammes iodine.	Grammes potassium iodide.
6471	80425	600 Pharmacy.....	Wichita.....	8.12	6.19
6472	80426	C. E. Dunlap.....	Wichita.....	6.91	5.00
6513	20980	L. M. Summers.....	Wheaton.....	8.30	1.93

*Tincture of iodine should show by assay not less than 6.86 grammes of iodine and 5 grammes of potassium iodide per 100 cc.

BAY RUM.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Methyl alcohol.	Oil.
6467	80421	St. Francis Pharm.....	Wichita.....	40.6	Negative.	Deficient.
6474	80433	Wheeler Drug Co.....	Wichita.....	47.2	Negative.	Deficient

*Bay rum should contain about 56 per cent alcohol and show other evidence of being up to the standard of the national formulary product.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	Name.	City.	Grammes camphor per 100 cc.
6452	20949	A. W. Wilson.....	Kanopolis.....	10.3
6492	20964	Littles Pharm.....	Alta Vista.....	9.8
6493	20965	R. W. Hill, M. D.....	Alta Vista.....	7.3
6497	20976	A. Eberhart.....	Wakarusa.....	8.4
6514	20981	Star Drug Co.....	Westmoreland.....	8.95

*Spirit of camphor should contain 10 grammes of camphor per 100 cc. of the spirit.

COD LIVER OIL.*

Lab. No.	Insp. No.	Name.	City.	Specific gravity.	Refractive index.	Saponification number.	Iodine index.
6545	21001	A. W. Stevens & Co.	Atchison ..	0.922	1.4795, 20°	187.3	149.7
6551	21008	Smith & Ratcliff.....	Oskaloosa..	0.922	1.4786	188.7	146.5

*Cod liver oil should have specific gravity, 9.18-9.22 at 25°C.; saponification value, 175-185; and iodine number, 140-150.

ESSENCE OF PEPSIN.*

Lab. No.	Insp. No.	NAME.	City.	Cc. un- digested albumin.
6444	20937	Lee Vaughn.....	Kansas City....	7
6451	20948	Hall Drug Co.....	Lincoln.....	13
6544	20998	Walter & Behrens.....	Atchison.....	1.5

*Essence of pepsin should contain not over 1 cc. of undigested albumin.

TURPENTINE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Refractive index.	Non-vol. residue.	Per cent distilling between 155°-162°.
6502	100033†	Brought in by Dr. Biddle, Topeka State Hospital..	Topeka.....	.8446	1.4631	0.28	Under 50%
6550	21007	Rock Creek Mercantile Company.....	Rock Creek...	.8609	1.4704	0.32	92.5
6552	21009	Lambert Lumber Co.....	Oakaloosa....	.8618	1.4719	0.66	92.0

*Oil of turpentine should have specific gravity, 0.860 to 0.870 at 25° C. The larger part should distill between 155° and 162° C.

†Contained mineral oil.

SWEET SPIRITS OF NITRE.*

Lab. No.	Insp. No.	NAME.	City.	Per cent ethyl nitrite.
6457	20955	Samuel Rothweiler.....	Bison.....	3.8
6496	20975	A. Eberhart.....	Wakarusa.....	4.35
6518	20987	Robinson Pharmacy.....	Miltonvale.....	3.06
6519	20988	Globe Pharmacy.....	Miltonvale.....	3.45
6527	100039	Pomono Fruit Co.....	Pomono.....	3.51

*When freshly prepared, sweet spirit of nitre should show by the official assay at least 4 per cent of ethyl nitrite.

TINCTURE OF GINGER.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Per cent extractive.
6470	80428	600 Pharmacy.....	Wichita.....	88.0	0.666
6475	90419	Queen Drug Co.....	Wichita.....	87.0	0.625
6477	80431	Regal Drug Co.....	Wichita.....	89.1	0.897
6482	80436	Gleem Drug Co.....	Wichita.....	89.5	0.759
6484	80438	Manhattan Drug Co.....	Wichita.....	90.0	0.992

*Tincture of ginger should contain not less than 91 per cent alcohol and not less than 0.800 grammes extractiv in 100 cc.

CALCINED MAGNESIA.*

Lab. No.	Insp. No.	NAME.	City.	Water sol. matter.	Loss on ignition.	MgO.	Heavy metals.
6511	20977	Bacon & Sons.....	Muscotah....	1.45	15.3	95.1	Trace.
6512†	20978	G. S. Fitzgerald.....	Wetmore.....	1.61	35.5	96.5	Trace.

*Calcined magnesia should not have more than 4 per cent matter soluble in water; should not lose more than 15 per cent upon ignition, and should contain not less than 96 per cent of the pure oxide.

†Sample contains 13.88 per cent Co₂, corresponding to 26.61 per cent of magnesium carbonate.

OIL OF WINTERGREEN.

Lab. No.	Insp. No.	NAME.	City.	Color reactions.	Specific gravity.
6445	20941	T. W. Carlin.....	Salina.....	—	Sample insufficient. 1.1745
6447	20943	C. C. Reed.....	Salina.....	—	

CASTOR OIL.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Refractive index.	Saponification value.	Iodine number.
6543	20999	Byrnes Pharmacy.....	Atchison.....	.959	1.4789	179.3	85.1
6548	21005	Mayetta Drug Co.....	Mayetta.....	.959	1.4788	178.7	85.6
6548	21006	Rock Creek Mercantile Co.....	Rock Creek...	.945	1.4785	178.8	85.5

*Castor oil should have specific gravity, .945-.965 at 25°C.; iodine number, .84-.89; saponification value, 179-183, and should be soluble in three times its volume of 92.5 per cent alcohol.

AROMATIC CASTOR OIL.

Lab. No.	Insp. No.	NAME.	City.	Brand.	Saponification value.	Refractive index.	Iodine number.	Specific gravity.
6536*	100041	A. J. White.....	N. Y.	Laxol.....	186.	1.4798	86.03	.....
6546†	21002	Drs. Miller and Miller....	.....	Upjohn....	169.3	1.4720	.....	.....
6547‡	21003	.....	.....	Parke, Davis....	177.67	1.4790	.....	0.961

*Contains oil of peppermint and saccharin.
†Contains saccharin, alcohol and aromatics.
‡Contains saccharin and aromatics.

ASPIRIN TABLETS.

Lab. No.	Insp. No.	NAME.	City.	Grains declared per tablet.	Grains found per tablet.
6458	20957	M. C. Martin, M. D.....	Frederick.....	5	5.034
6491	20963	Knuth's Pharmacy.....	Herrington.....	5	4.888
6522	100036	Submitted by H. B. Allen.....	Wichita.....	5	5.193
6528	20993	Corner Pharmacy.....	Beloit.....	5	4.601
6529	20994	Corner Pharmacy.....	Beloit.....	5	4.402
6530	20995	Corner Pharmacy.....	Beloit.....	5	4.668
6531	20996	Corner Pharmacy.....	Beloit.....	5	4.657
6532	20997	Corner Pharmacy.....	Beloit.....	5	4.775

A PLEA FOR THE STATE HOSPITAL AT ROSEDALE. It is costing the warring nations of Europe \$30,000 to destroy a human life in battle. Would it be too great a contribution for the wealth and civilization of Kansas if it were to appropriate the amount which it takes to kill two and a half men in battle for the annual maintenance of an institution which has for its purpose the training of men and women in the art of treating and preventing disease, the enabling of some of the poor of its citizens to have health and life restored to them, and the making of some of its crippled children whole? Would it be too much if it appropriated the amount which it takes to kill five men in battle for each of the two succeeding years, so that this institution can obtain adequate grounds, buildings and equipment to do this work of education and mercy satisfactorily and efficiently?—DR. MERVIN T. SUDLER.

POWDERED GINGER.

Lab. No.	Imp. No.	Name.	City	Brand.	Net wt. gramme.	Per cent vol. matter at 110°C.	Per cent ash.	Per cent sol. ash.	Normal Per cent H ₂ O extract.	Calculated from moisture-free substance, Per cent H ₂ O extract.	Per cent ether extract.	Per cent petroleum ether extract.	Per cent starch by acid conversion.
6467	60042	O. J. Castleman	Junction City	Golden Gate	92.60	11.35	5.61		14.2	16.02			52.06
6468	60071	Parish Bros.	Junction City.	Alton	60.62	9.58	3.48		17.3	19.1			60.80
6503	70474	C. C. Abby	Harper	Arbuckle	97.00	12.68	6.72	3.90	13.6	16.57	5.52		53.1
6504	70426	C. C. Abby	Harper	Golden Gate	86.00	10.50	6.1	2.78	10.45	11.6	8.12		50.22
6505	70426	C. C. Abby	Harper	French.	61.00	12.08	3.52	1.42	17.0	19.3	3.82		53.82
6506†	70427	Harper Dept. Store	Harper	Murdoch	107.00	10.29	7.76	3.61	11.15	12.4	4.05	1.42	50.6
6507	70428	Harper Dept. Store	Harper			12.08	4.52	2.70	10.60	12.1	5.80		57.65
6508	70430	James James	Bluff City	F. F. O. G.	88.00	10.23	6.60	2.00	14.6	16.2			53.30
6509	70439	K. E. Hord	Anthony	Lee	83.5	11.55	5.48	3.06	13.45	15.2			52.35
6510	70437	C. C. Arnold	Anthony	(Jam) Toss	92.0	10.4	4.01	2.09	16.1	17.9	4.70		52.6
6515	20063	McCurry & Co	Concordia	(Jamaica)		10.08	4.97	3.36	15.13	16.82		3.87	55.86
6524	90917	M. McCormick	Nickerson	F. F. O. G.	113.7	10.73	5.47	3.12	13.6	15.1		3.92	57.12
6533	70451	J. A. Kallaus	Persons	Gauntlet	64.0	9.45	4.77	2.27	13.0	14.26	7.53		53.88
6534	70459	D. C. Potter & Son	Mound City.	Merbell	66.3	9.40	5.06	2.28	13.4	14.7		5.75	54.24
6535	70461	Underhill & Co.	Mound City	Morning Glory	58.4	9.60	5.70	2.88	12.44	13.76		5.52	53.40
6537	70463	L. S. Sheets	Goddard	Karavmore.	83.56	9.75	6.22	2.10	13.40	13.70		5.55	53.28

† starch and not more than 6 per cent total ash. The per cent of extractive matter varies with the kind of ginger. A pure Jamaica ginger has 3.0 per cent total ash. The same samples showed 3.00 per cent total ash, 2.05 per cent total ash and 2.15 per cent total ash. Jamaica ginger had 3.9 per cent soluble in petroleum ether; African ginger matter indicate present um ether extract. Illegal.

BOILED LINSEED OIL.*

* Boiled linseed oil should have specific gravity not less than .935 at 60° F.; saponification value, not less than 186; iodine number, not less than 100; acid value, not more than 10; must dry on glass plate in 20 hours and should otherwise conform to the Kansas law.

RAW LINSEED OIL.*

Lab. No.	Insp. No.	Name.	City.	Specific gravity.	Refractive index 15.5°C.	Saponification value	Iodine number.	Drying test.	Remarks.
6526	80441	Haynes Bldg Co	Emporia	927	1.4829	189.5	171.2	72 hours.	Passed.
6540	80446	Pierce & Coleman	Frederick	933	1.4820	190.96	169.91	96 hours.	Passed.
6542	21000	J. E. McGrath	Atchison	931	1.4831	190.71	179.65	96 hours.	Passed.
6553	21010	Lambert Lbr Co	Olatona	930	1.4831	191.18	180.28	96 hours.	Passed.

* Linseed oil should have specific gravity, 925-935 at 25°C.; saponification value, 187-196; iodine number, not less than 170; should dry on glass plate, forming hard transparent resin, and should otherwise conform to U. S. P. Requirement.

ROASTED COFFEE.*

Lab. No.	Insp. No.	Name.	City.	Brand.	Per cent moisture.	Per cent ash.	Per cent soluble.	Per cent in-soluble.	Per cent caffeine.	Per cent fat.	Per cent ether extract.	Per cent nitro-gen.	Per cent H ₂ O extract.
6441	100014	Kaffee Hag Corp	N. Y.	Kaffee Hag	5.96	5.07	78.4	21.6	96	16.23	16.29	1.59	23
6460†	100022	C. L. Engstrom	Neel	Arctite	6.2	5.4	65.3	34.7	1.4	11.2	12.66	1.81	20.05

* Roasted coffee should contain not less than 10 per cent fat; not less than 3 per cent ash; should contain no cereal or other adulterant. At least 75 per cent of the ash is soluble in water.

† Contains trace of cereal and about 36 per cent acid.

Some of the Troubles of the Health Officer.

By J. H. HENSON, Labette County Health Officer.

The paths of the health officer are not strewn with lilies. Neither do they wind through beds of roses at all times. But on the other hand, the health officer has his ups and downs, *but mostly downs*. He very frequently gets into trouble, and occasionally gets the other fellow into trouble.

For example, a brother physician has some sort of contagion in one of his AA grade families, which he has recognized, and he at once imparts this fact to the family. The husband is a busy man, and the wife has her memoranda full of club dates. The attack is a very mild one, anyway (such as epidemics usually start from), and the husband and wife state to the doctor (who is quite anxious to please in every possible way), that it is among the impossibilities to be isolated. The doctor indulges a slight concession by stating that they shall not admit any one to the home, and that he will watch developments for a day or two, with a hope, in his heart, that the conditions will quickly clear up and therefore no quarantine will be needed, and his good standing with the family is still intact. But at about this point in the game Mrs. Foxy-Never-Fail-in-Diagnosing-All-of-the-Gossip-and-Contagion-of-the-Community gets her ear to the ground and finds out that Paul has some sort of an eruption on his person, and reports a very grave set of symptoms to the health officer and demands an investigation. Quarantine follows, and Mrs. Foxy-on-the-Spot proceeds to publish the fact that Neighbor A. and Doctor B. were smuggling a contagious disease until she notified the health officer. Then it is that Mrs. Foxy rears her little egotistical pimple back and says to all of her neighbors again, "I told you all so," and by so doing gets the doctor, the family, and the health officer all into a Hades of a mess, with the mess usually rubbed all over the health officer.

Again, two physicians who are competitors are called in to see a case of some sort of contagious trouble, and they absolutely disagree. They call the health officer in to settle the controversy in diagnosis. Naturally enough both the doctors get busy exemplifying their diagnostic points in the case. Well, it is a mortal cinch that the health officer can not "agree" with both of the doctors, hence, as a way out of it, he does his darnedest to "disagree" with both of them.

Now, as a sort of safeguard against troubles, the Labette county health officer has adopted the following ten commandments:

1. Thou shalt never, never knock.
 2. Thou shalt not shirk thy job.
 3. Thou shalt always remember that 25 per cent of good, cool, conservative thought is worth more than 100 per cent of hasty action.
 4. Thou shalt not grunt at thy stunt; but do it meekly.
 5. Thou shalt find fault with thine own way rather than that of thy fellow worker.
 6. Thou shalt bear in mind that Economy is not Stint, but is common sense and a good thing to practice.
 7. Thou shalt not gorge the inner man; it takes thy blood all to the stomach and robs the brain.
 8. Thou shalt not measure thy service by the clock, but exhaust thine energy, or win.
 9. Thou shalt be cleanly—in principle and in person.
 10. Thou shalt talk little, try hard, smile, be polite to the enemy, put your trust in God, and you will be a winner.
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Feeble-mindedness as a Constitutional Anomaly.

The current emphasis on the role played by heredity in determining the make-up and functioning of the normal person has again brought into prominence the idea of constitutional defects as important factors in various manifestations of disease. Dr. Amos W. Peters of the Training School at Vineland, N. J., has contended that feeble-mindedness should be regarded as a constitutional anomaly of the individual, which he has either inherited or acquired. As he points out, according to this theory, feeble-mindedness is not an isolated psychologic or even an isolated brain phenomenon, but is constitutional, general and far-reaching throughout brain and body. The importance of this view lies primarily in the fact that it points to the necessity of investigating the problems of the feeble-minded in directions additional to the customary psychologic, psychiatric or anatomic paths of scientific inquiry. So far as the broader sociologic aspects of the situation are concerned, one of the chief considerations undoubtedly is the prevention of the increase in the number of the feeble-minded. Here the influences of heredity must be confronted; but so

far as feeble-mindedness is in any way likely to find remedial agencies, it marks a step in the direction of progress to deal with the purely physiologic aspects of the unfortunate situation. Particularly so far as acquired feeble-mindedness is concerned, that is, feeble-mindedness which may not primarily be hereditary in its origin, the most hopeful prospect appears in the search for a physiological reason for it. Here then, says *The Journal of the American Medical Association* is a possible land of promise for future research? What is the physical cause for feeble-mindedness? When this question is answered, prevention may become possible.

"THE PALACE OF EATS" was the name the owner gave his restaurant in a small Indiana town. The name was so effulgent the inspector was led to make an inspection. He entered. There was the usual counter with high stools, the wall shelves with pies, buns, plates of fried meats, etc., upon them. And the flies! They were numerous and insistent, and through the unscreened back door could be seen the open garbage barrel and the outhouse which maintained the supply. In the cracks between the shelves and the wall were found a few maggots, and here was another source for the abundant fly supply. All of these conditions did not in the slightest degree work against patronage. The customers were many. "The Palace of Eats" did a good business. The boy at the counter had sore eyes and constantly rubbed them with his fingers and then with the same fingers lifted sandwiches, cake and pie. The customers did not object. Indeed not one noticed the conditions but ate with gusto. The inspector went forth into the night. His spirits were too low to call forth action.—*Indiana Bulletin*.

Stopped Typhoid in Army—War has Proved Worth of Vaccine to Prevent Plague.

PARIS, JAN. 13.—The war has demonstrated beyond all question, according to members of the medical commission, the efficaciousness of anti-typhoid vaccination. Most of the members of the active army had been vaccinated before the war, but the reservists and territorials drafted and sent to the front later had not, and as a result, towards the end of October, many cases of typhoid developed.

The medical commission sent doctors to the firing line and they vaccinated a whole army corps of forty thousand men.

By the end of December the good results of this treatment became apparent, as typhoid had practically disappeared, the only cases remaining being among the men of two regiments which the doctors were unable to reach.

ANNA'S ABSENCE.— A truant officer in a New Jersey city was sent after an absent pupil and found her ill. She went the second time to see how the little girl was getting along, but did not find the mother at home. The next day a four-page letter came to the school, addressed:

To whom it may concern.

Part of the letter was as follows:

If she is not well, I won't send her, no matter how you walk after her, nor how you write after her, I am poor as true, but I got as much Principal as you have, I was Raised, I didn't just grow up as a wild sprig in the woods, you people terable excited about your little Education, amounts to a whole lot here in ——— to a poor child, that why so many children got diphtery and other things rushing them in school when they are about half sick, I guess that where my Anna got her spell from, all right.—*Popular, Sept. 23, 1914*

A Study of Fruit Jar Caps.

GAIL MIERS STAPP.

For years the Mason fruit jar has held first place as a container for many classes of preserved foods. Different caps are employed. The most common type has been a zinc cap with glass lining which made a perfect closure by pressing tightly on a rubber ring. Later types have varied the method of closure by placing the rubber ring on the edge of the glass neck in such a way that the closure was made not with the edge of the cap but by the inside glass lining. In order to determine the relative merits of the old and the new style of cap, especially with reference to the solution of metal and perfect seal, we have made the experiments which are outlined below:

Fourteen clean Mason jars were selected, one-half of which were sealed with White Crown caps, and the other half with Mason caps. Into each jar sealed with the White Crown caps was put 100 cc. of one of the following solutions: $\frac{1}{2}\%$ H_3PO_4 ; 1% H_3PO_4 ; $\frac{1}{2}\%$ tartaric acid; $\frac{1}{2}\%$ acetic acid; 1% acetic acid; $\frac{1}{2}\%$ HNO_3 ; and 1% HNO_3 . The same was done with the jars sealed with Mason caps. These jars were inverted and allowed

to stand for six months. At the end of that period the following things were noted:

Condition of the cap, loss in volume, if solution was clear or turbid, and if zinc was present. The results are shown in the following tables:

WHITE CROWN CAPS.

Acid.	Condition of Cap.	Loss in Volume.	Solution.	Zinc.
$\frac{1}{2}\%$ H_2PO_4 .	No corrosion.	No.	Clear.	None.
$1\frac{1}{2}\%$ H_2PO_4 .	" "	"	"	"
$\frac{1}{2}\%$ Tartaric.	" "	"	"	"
$\frac{1}{2}\%$ Acetic.	" "	"	"	"
$1\frac{1}{2}\%$ Acetic.	" "	"	"	"
$\frac{1}{2}\%$ HNO_3 .	Outer rim slightly corroded.	"	"	"
1% HNO_3 .	Outer rim slightly corroded.	"	"	"

MASON CAPS.

Acid.	Condition of Cap.	Loss in Volume.	Solution.	Zinc.
$\frac{1}{2}\%$ H_2PO_4 .	Corroded.	About $\frac{3}{4}$.	Turbid.	+
$1\frac{1}{2}\%$ H_2PO_4 .	Badly corroded.	Completely Evaporated.		
$\frac{1}{2}\%$ Tartaric.	Slightly corroded.	About $\frac{1}{2}$.	Clear.	+
$\frac{1}{2}\%$ Acetic.	Slightly corroded.	No.	Clear.	+
1% Acetic.	Badly corroded.	Completely Evaporated.		
$\frac{1}{2}\%$ HNO_3 .	Badly corroded.	No.	Clear.	+
1% HNO_3 .	Badly corroded.	Slight loss.	Turbid.	+

The following results from the experiment were noted:

1. On five out of seven jars, the White Crown caps were in perfect condition. All of the Mason caps were corroded.

2. There was no loss in volume in the jars sealed with White Crown caps. In five of the seven jars sealed with Mason caps there was a decided loss in volume.

3. The solution in each of the jars sealed with White Crown caps was clear, while in two of the jars sealed with Mason caps the solution was decidedly turbid.

4. Zinc was present in each of the solutions in the jars sealed with Mason caps.

The following conclusions were drawn: The White Crown cap is superior to the Mason cap—(1) it does not permit the contents of the jar to come in contact with any metal; (2) it is more sanitary in that it is more easily cleaned; and (3) it permits a tighter seal.—*Indiana Bulletin*.

The Fresh Air Cure.

Fresh air is largely made up of oxygen, which is one of the things the blood, and incidentally the heart, has to have. Therefore, fresh air is always in order, and science has shown that many other maladies besides consumption are properly called "house diseases." Up-to-date architects now provide open-air sleeping rooms in their plans.

Every breath of fresh air with its dense oxygen gives the heart a little boost to help accomplish its big task of lifting over 100 tons a day. Cold weather is one of the greatest blessings of the temperate zone. Nations living in climates where there is a good amount of cold weather have become masters of the earth. The reason is that life in cold air is brighter and deeper, every function is quickened, the appetite is sharper, sleep is more restful, the blood is purer, repair processes are assisted, and resistance to disease is increased.

Therefore, Mr. Sick Man, do not run away from cold weather. Of course getting chilled by exposure to cold may be injurious, but breathing cold air while clothed warmly is one of the best means of promoting recovery from disease and "tired feeling." Jack Frost is really a friend, not an enemy, when met with discretion.—*Healthy Home*.

Please Pass "The Jolly."

Of course you must remember she is a little girl, scarce four years old. The big words are hard for her, and she does not always pronounce them correctly. Some sound so much alike that her ear has not caught the difference yet. She surprised us all one day at the table by saying, with polite dignity, "Please pass the jolly!" We looked at one another, not understanding. As usual, Mother saw the point first, and an answering smile passed over her face: "The jelly, of course." Perhaps the rest of us laughed rather boisterously, for the little girl sank down in her chair, dismayed. Her fear was soon over, and we enjoyed the incident with smiles and laughter.

Since then we have caught ourselves wishing some one would "please pass the jolly." Not the rude, meaningless jest we sometimes hear, but the fitly framed foil of fun which fences our lives from the monotony and care of every day. We find there are moments when the strain of toil is tense. There are critical moments in conversation when a trifle may ease a difficult situation. Then some one suggests the little girl's unpremeditated advice, and "the jolly" put every one on good terms again. Perhaps it will pass into a proverb in our home. I do not know. It deserves perpetuation for the good it has done. Perhaps it may make you also to smile-and-think. Are you a good hand at passing "the jolly," in the right way, at the right time, to the right person?—*Congregationalist*.

Common Colds and Their Cause.

Common colds, as the name implies, have long been considered due to a lowered atmospheric temperature.

This belief is growing less and less every day. The present attitude of the modern physician is that most colds have very little to do with exposure to a low temperature, but are transferred from one person to another by an infection, there being a number of micro-organisms that will cause them. The best place then to take cold is not out of doors, but in close, ill-ventilated rooms, cars, theaters, or churches.

Feet wetting or chilling of the body does nothing else than lower the general health, making us more easy victims to colds. The fact that colds are very much more prevalent in winter is chiefly because at that season of the year we live in houses with doors and windows closed, thus providing an ideal place for the multiplication and transmission of the influenza and other germs. Then, too, at this season of the year we take less exercise out of doors, which results in lower bodily vigor and less resistance, therefore we are more susceptible.

People who live out of doors summer and winter, and properly ventilate their houses, suffer little more from colds in winter than they do in summer. One seldom takes cold from normal exercise in the open air. Colds, on the other hand,

are readily traced from one person to another through households, schools and factories and often occur after attending crowded assemblies.

What then is the remedy? We can not destroy all the countless germs or quarantine every one who has a cold. This is not necessary. If we keep ourselves in vigorous health, clean, and warmly, but not too heavily clad, we can defy germs.—*Healthy Home.*

The "Movies" and the Eyes.

The injurious effect on the eyes of the swiftly moving images of the cinematograph has been frequently discussed. It has been shown that a number of disorders of the eyes are caused by this form of entertainment. In Massachusetts a five-minute intermission is required between reels so as to lessen the eye-strain. One of the factors in cinematograph exhibitions which favors the development of eye-fatigue is poor definition of the original negatives. This is greatly accentuated when the positives which are used are enormously magnified. The smaller the image in the eye, the longer the impression lasts and the more the eyes are tired, so that seats nearer the screen are less desirable than those more remote. There is less eye fatigue when sitting not closer than forty feet from the screen.

That the "movies" are a prolific source of eye-strain must have been recognized by many oculists, yet, with few exceptions, the attention of the public has not been directed to this important fact, while the victims themselves seldom suspect the cause of their trouble, although many of them suffer from an increase of symptoms even while witnessing the pictures. These symptoms usually consist of headache, vertigo, nausea and fatigue of the eyes, followed later by vomiting, sleeplessness and lack of energy. Physicians and public-health officials have only recently realized the important part the picture theaters play in the welfare of the community from a health standpoint. Many theater buildings are remodeled storerooms with no facilities for ventilation. The air is breathed over and over and plenty of opportunity is afforded for contact between infected and noninfected, thereby facilitating the distribution of infectious diseases. In the United States there are over

twenty-five thousand moving-picture theaters, at which there is an average attendance of over fifteen million spectators. This variety of eye-fatigue may be largely removed by wearing proper glasses; by patronizing only those places which have good films, proper manipulation and proper intervals of rest between the reels; by sitting at the right distance from the screen (no closer than forty feet) and by not overdoing attendance on these places of amusement.

It has been suggested that licenses be issued only to those proprietors of moving-picture theaters who are willing to abide by the following rules: First, to operate the machine by a motor instead of by hand, to have an adjustable take-up or speed regulator and an automatic fire-shutter which renders more accurate the sequence of the individual images; second, to use the arc light with the direct current, which is brighter and steadier than that with the indirect current; third, to have a proper screen, free from disagreeable and harmful glare. The so-called "mirror screen," consisting of a mirror glass with a frosted surface, seems to be one of the most desirable. Fourth, to use no reels which have been in use for over a month. Reels of an inferior quality or which have become scratched from much use give poor definition. Fifth, to allow at least three minutes intermission between the reels.

What Makes People Blind.

Did you ever stop to think of the one hundred thousand blind people in the United States, and what caused their misfortune? Did it ever occur to you that about thirty thousand of these unfortunates are unnecessarily blind? Do you know that about twelve thousand of these are children who are blind because of the unfaithfulness of either the father or the mother? Are you aware that twelve thousand people are groping their way about in darkness due to injuries which in most instances could have been avoided by the installation in factories of proper safety devices? Twenty-five hundred of them are deprived from a livelihood because of granular lids, which is preventable by the application of proper remedies. Two thousand are deprived of their sight because of Fourth of July accidents. Fifteen hundred will

never again see the light of day because of various causes, such as the drinking or absorbing of wood alcohol and the neglect of proper treatment of certain eye affections. If we look at these figures calmly, they are amazing. We can hardly believe that thirty thousand human beings are shut out from earning a livelihood, who might now be employed, self-supporting and productive of several million dollars' worth of labor, if preventive measures had been employed in their cases. We are a long-suffering people, but how much longer must we keep our eyes closed to the fact that if the doctor or midwife had dropped a 1 per cent solution of nitrate of silver into the eyes of the new-born babe, six thousand pairs of eyes would have been saved from the dreadful effects of gonorrheal ophthalmia. If the twelve thousand now sightless from injury had been employed in factories where safety devices were installed they would be producers instead of dependents. Granular lids or trachoma is amenable to treatment, yet twenty-five hundred persons were allowed to become blind from this cause. It must be a happy thought to all of us to know that the past two years has shown a marked diminution in the number of injuries from Fourth of July accidents. The use of wood alcohol, working in rooms where it is used or drinking "power-house whisky" or some of the various soft drinks containing wood alcohol, has caused a large number of persons to become totally blind. There will always be a certain number of cases of blindness which can not be avoided, but it is appalling to think that the sight of thirty thousand of those now blind could have been preserved. How shall we limit blindness in the future? By insisting that our children's eyes shall have proper care. By compelling our factories to install safety devices. By medical inspection of schools. The child sitting next to your child may have diphtheria and convey it to your child's eyes. By demanding a safe and sane Fourth of July in your own town. By abolishing the roller towel, and by establishing such other hygienic measures as will tend to keep us healthy and free from disease.

Don't "hot-house" children if you don't want to "flour-pot" them.

Fifth Annual School for Health Officers.

The Fifth Annual School for Health Officers and Physicians will be held this year the two weeks beginning Monday, April 19, to and including Saturday, May 1. The first week will be given at the University at Lawrence, and will consist practically of postgraduate work in the fundamental sciences of medicine given by the faculty of the School of Medicine. The second week will be given at the Bell Memorial Hospital at Rosedale, the forenoon of each day to be devoted to clinics in the hospital, and the afternoons to distinctively public health instruction.

Three of the most distinguished sanitarians in the United States have been secured for giving the instructional work of this public health course, namely, Surgeon M. J. White of the United States Public Health Service, Doctor John S. Fulton, secretary of the Maryland State Board of Health, and Doctor A. J. Chesley, epidemiologist of the Minnesota State Board of Health. Other work will be given by the faculty of the School of Medicine and the officers of the State Board of Health.

The school was largely attended last year, and a most excellent program was given; by vote of those in attendance, the majority declared their wish that a two-weeks' school of instruction be given this year. We are pleased to announce that this year's program will be even more interesting than the one a year ago, and on behalf of the School of Medicine of the University of Kansas and the State Board of Health, we cordially invite every licensed physician in the state who desire to take the two weeks' postgraduate work, including instruction in up-to-date methods in public health work, to attend this year's school. The course is absolutely free. Health officers are urgently requested to avail themselves of what we believe to be a rare opportunity for informing themselves of the latest and most up-to-date methods in public health work.

It is greatly desired that we have information as to the number that expect to attend. Physicians are, therefore, requested to notify the secretary of the State Board of Health of such attendance, and whether they expect to attend the entire two weeks' course, or but one week, indicating which week they can find the time to devote to the school.

Complete program will be published in the next issue of the Bulletin.

A hospitable sign for your office: "If you spit on the floor at home, spit on the floor here. We want you to feel perfectly at home."

SEASONS DANGERS: Some men take no exercise, others take too much. Some take exercise regularly, others take it spasmodically. If your life is a sedentary one, the exercise problem becomes more serious as cool weather comes on.

As a measure of economy and efficiency, the governor's commission has recommended the full-time health officer.

What is a Child Worth?

When a little child lies in your arms at night,
What do you care for care?
When her little lips sing in the even' light,
And her little arms clasp you there;
When a little child lies in your arms at rest,
And the sun goes down in the purpling west,
What do you care for the toil and the stream,
When a little child lies in your arms to dream?

When a little child stands at the door and sings,
What do you care for care?
When unto your arms in the dusk she springs,
And away to the rocking chair;
When a little child tells of the day's events,
Its laughter and lilt and its sacraments,
What do you care for the pain and the ache,
When a little child loves you for love's sweet
sake?

When a little child slumbers in sleep's sweet fold,
What do you care for care?
Hugging her close in your arms' enfold
And smoothing her silken hair;
When a little child drifts 'neath the lullaby
To the dreamland sweet of the dreamland sky,
What do you care for the struggle and strife,
With love at the end of it sweeter than life?

—*Baltimore Sun.*

BULLETIN

OF THE

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S. J. CRUMBINE, M. D., Editor.

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CONTENTS.

	<i>page</i>
Morbidity Reports for January.....	34
Report of the Division of Food and Drugs.....	36
Food Analysis LII.....	38
How to Cure a Cold.....	43
What the Growing Child Needs.....	43
The Sane Solution of the Sex Problem.....	44
The Menace of the Feeble-minded.....	45
Soap Bark or Saponin.....	46
A Word for Father.....	47
"We Must Fight—Together" (cartoon).....	48

Be calm!

Fret not thyself!

The knocker is abroad in the land.

"Ain't it fierce"?—the unventilated movies.

The best spring tonic—God's pure spring air.

Health, next to character, is the most important thing in the world.

In the spring clean the cistern; and it would be well to look well to the well.

Did you get a Kansas Health Almanac? There are a few left yet—send in your name and address.

One of the popular delusions—"blood-making foods." All good, wholesome foods when properly prepared and well digested make "good blood."

MORBIDITY REPORTS FOR JANUARY, 1915.

Number of cases reported from each county.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough...	Meningitis.....	Pellagra.....	Trachoma.....	Polio myelitis.....	Mumps.....	Chicken pox.....	Other communicable diseases.....
THE STATE.....	56	195	142	440	138	83	2	0	158	0	203	163	34
Allen.....	1	1	0	1	0	0	0	0	0	0	0	0	0
Anderson.....	0	3	1	4	0	0	0	0	0	0	0	3	0
Atchison, except.....	0	2	0	0	0	0	0	0	0	0	0	0	0
Atchison city.....	1	2	0	0	0	0	0	0	0	0	1	0	0
Barber.....	0	0	0	2	0	0	0	0	0	0	0	0	0
Barton.....	0	6	0	12	0	2	0	0	0	0	4	0	0
Bourbon, except.....	1	1	10	0	0	0	0	0	0	0	0	0	0
Bourbon, except.....	1	2	0	0	0	0	0	0	0	0	0	0	0
Fort Scott.....	1	1	0	0	0	0	0	0	0	0	0	0	0
Brown.....	1	1	1	0	0	1	0	0	0	0	0	0	0
Butler.....	0	3	1	26	32	0	2	0	0	0	1	7	0
Chase.....	0	0	0	0	0	1	0	0	0	0	1	0	0
Chautauqua.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Cherokee.....	0	5	1	51	0	0	0	0	0	0	0	0	0
Cheyenne.....	0	0	0	0	8	2	0	0	0	0	0	0	0
Clark.....	0	0	0	4	0	0	0	0	0	0	0	0	0
Clay.....	1	1	4	15	0	8	0	0	0	0	1	0	0
Cloud.....	0	0	4	0	7	0	0	0	0	0	89	0	0
Coffey.....	0	1	4	0	0	2	0	0	0	0	0	0	1
Comanche.....	1	2	0	11	0	0	0	0	0	0	0	0	0
Cowley.....	1	4	3	2	3	0	0	0	0	0	0	0	0
Crawford, except.....	3	3	1	1	2	0	0	0	0	0	0	0	0
Crawford, except.....	0	1	2	1	0	3	0	0	0	0	0	2	0
Pittsburg.....	2	0	0	1	7	1	0	0	0	0	0	0	0
Decatur.....	0	4	0	0	0	4	0	0	0	0	0	0	0
Dickinson.....	0	9	0	0	0	1	0	0	0	0	0	0	0
Doniphan.....	0	0	1	0	0	18	0	0	0	0	8	7	0
Douglas.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Edwards*.....	0	0	3	1	0	0	0	0	0	0	0	0	0
Ellis.....	0	0	0	0	0	0	0	0	0	0	0	0	1
Ellsworth.....	0	1	1	0	0	0	0	0	0	0	0	0	0
Finney.....	0	0	0	1	0	0	0	0	0	0	0	1	0
Ford.....	1	1	0	0	0	0	0	0	0	0	0	1	0
Franklin.....	4	1	0	2	0	2	0	0	0	0	0	0	0
Geary.....	0	0	0	0	0	0	0	0	0	0	0	1	0
Gove.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Graham.....	0	0	10	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray.....	0	1	0	1	0	0	0	0	0	0	1	0	0
Greene.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood.....	1	1	0	0	7	0	0	0	0	0	1	0	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	71	0	0	0	0	0	0	0	1	0
Harvey.....	2	6	0	0	1	5	0	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0	0	1	0
Jackson.....	2	1	1	0	0	9	0	0	154	0	1	6	0
Jefferson.....	0	0	0	0	0	0	0	0	0	0	0	2	0
Jewell.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Johnson.....	2	7	4	0	1	3	0	0	0	0	1	0	0
Kearny.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	2	0	72	0	0	0	0	0	0	0	2	0
Kiowa.....	0	0	0	0	1	1	0	0	0	0	0	0	0
Labette, except.....	2	15	0	0	0	0	0	0	0	0	0	0	0
Labette, except.....	0	4	1	0	0	0	0	0	0	0	0	2	0
Parsons.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Lane.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Leavenworth, except.....	0	2	1	0	0	0	0	0	0	0	0	0	0
Leavenworth city.....	0	2	3	0	1	0	0	0	0	0	0	18	0
Lincoln.....	0	0	0	0	0	5	0	0	0	0	0	0	0
Linn.....	3	1	4	0	3	0	0	0	0	0	0	0	0

* No report received.

MORBIDITY REPORTS FOR JANUARY, 1915—Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pellagra.....	Trachoma.....	Polomyelitis.....	Mumps.....	Chicken pox.....	Other communicable diseases.....
Logan.....	0	0	6	0	0	0	0	0	0	0	0	0	0
Lyon.....	0	2	5	2	0	1	0	0	0	0	4	0	0
Marion.....	1	1	6	1	0	0	0	0	0	0	1	0	0
Marshall.....	0	2	1	0	0	0	0	0	0	0	1	4	0
McPherson.....	0	7	0	0	0	0	0	0	0	0	0	0	0
Meade.....	0	0	0	3	0	0	0	0	0	0	0	1	0
Miami.....	0	0	2	0	0	0	0	0	0	0	1	3	0
Mitchell.....	1	0	1	0	0	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	3	2	3	0	0	0	0	0	0	0	0	1	0
Morris.....	1	1	0	0	0	1	0	0	0	0	2	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	1	4	0	0	0	0	0	0	0	1	0
Neosho.....	0	1	0	0	1	3	0	0	0	0	0	11	0
Ness.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Norton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Osage.....	0	5	0	8	1	0	0	0	0	0	0	9	0
Osborne.....	0	0	0	0	0	0	0	0	0	0	0	1	0
Ottawa.....	0	1	2	0	0	0	0	0	0	0	0	0	0
Pawnee.....	2	0	1	27	0	0	0	0	0	0	0	1	0
Phillips.....	0	0	3	9	0	0	0	0	0	0	0	0	0
Pottawatomie.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Pratt*.....													
Rawlins.....	1	0	0	0	0	0	0	0	0	0	1	0	0
Reno, except Hutchinson.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Republic.....	0	9	0	1	0	8	0	0	0	0	25	0	0
Rice.....	0	1	0	0	4	0	0	0	0	0	0	1	0
Riley.....	0	2	0	4	1	0	0	0	0	0	8	14	5
Rooks.....	0	0	1	0	0	0	0	0	0	0	0	1	0
Rush.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Russell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Saline*.....													
Scott.....	0	0	0	6	0	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	0	2	5	15	0	1	0	0	0	0	0	3	1
Seward.....	0	1	3	37	1	0	0	0	4	0	25	18	0
Shawnee, except Topeka.....	1	0	0	1	5	0	0	0	0	0	0	0	0
Sheridan.....	0	2	1	0	0	0	0	0	0	0	3	8	0
Sherman.....	0	22	2	3	10	0	0	0	0	0	2	0	2
Smith.....	0	0	11	0	0	0	0	0	0	0	2	0	0
Stafford*.....	1	1	1	0	23	0	0	0	0	0	3	4	0
Stanton*.....													
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	0	6	2	37	3	0	0	0	0	0	11	12	7
Thomas.....	0	5	1	0	0	0	0	0	0	0	2	1	1
Trego.....	0	0	7	0	0	0	0	0	0	0	0	0	0
Wabunsee.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wallace.....	0	1	0	0	0	0	0	0	0	0	0	1	0
Washington.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	5	1	0	1	1	0	0	0	0	0	0	0	0
Woodson.....	2	0	0	0	0	0	0	0	0	0	2	0	0
Wyandotte, except Kansas City.....	0	1	5	0	0	0	0	0	0	0	0	1	0
Kansas City.....	5	17	6	1	1	9	0	0	0	0	1	2	0

* No report received.

Other communicable diseases: Pneumonia, 26; bronchopneumonia, 1; tetanus, 1; erysipelas, 1; cancer, 5.

Report of the Division of Food and Drugs, Kansas State Board of Health.**FOR THE MONTH OF JANUARY, 1915.****LEON A. CONGDON, B. S., Chief of Division.**

During the month of January our inspectors have made 748 inspections and have visited 75 cities and towns. The feature of the inspection work for January was a complete survey of the milk supply of the thirteen cities of the state having a population of 10,000 or more. Out of 393 samples of milk inspected, 34 were found by our analyst as illegal and below standard. Out of 34 samples of cream inspected, 6 were found below standard and illegal. This shows that 8.65 per cent of the milk sold to our larger cities is below the standard. By the time this report comes from the printer our inspectors will have inspected 30 more cities and towns from 3000 to 10,000 inhabitants for a survey of the milk sold by dairymen in these cities and towns. A more detailed report of the milk survey of all cities and towns above 2000 inhabitants in Kansas will be submitted as soon as a special bulletin can be arranged and all towns covered. This special milk survey report is anticipated to cover 73 cities and towns in Kansas, and will be the most complete milk survey, according to the population, that has ever been attempted by any state.

Two samples of canned asparagus were declared illegal on account of an excessive amount of tin in the contents. One sample of evaporated pears contained an excessive amount of sulphur dioxide and was stamped as illegal. A sample of salad oil was reported as containing cottonseed oil and was not so labeled, hence was misbranded and illegal. Seven samples of sardines in oil were called illegal, in that an excessive amount of tin was found in the contents.

Thirty-four milk samples were reported illegal and adulterated, in that they did not conform to the standard for milk. From the reported analyses it appeared that some of the samples of milk were skim milk, some skimmed and watered, and some watered. Six samples of cream were below the standard for butter fat, and were therefore illegal.

The drug samples reported illegal were either misbranded as to claims or as declared, or were not in conformity to

standards for same. Special mention should be made in regard to beeswax and white wax. Fifty per cent of the samples reported contained paraffin, when in fact beeswax should be the product of the bee.

During the month of January, 1915, our inspectors have examined 273 scales, 780 weights and 232 measures. They have condemned three scales, eight weights and two measures.

We have received food analyses LII from the University food laboratory, by Dr. E. H. S. Bailey, director, and W. S. Long, analyst.

The following table gives the summary of the inspections made by our traveling inspectors during the month of January:

SUMMARY OF SANITARY INSPECTIONS FOR JANUARY 1915.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Grocery.....	112	50	5	56	1
Grocery and meat.....	7	1	1	5	
Meat market.....	24	8	2	14	
Bakery.....	17	8		5	4
Grocery and restaurant.....	1	1			
Grocery and confectionery.....	1		1		
Grocery and feed.....	1			1	
Grocery and bakery.....	1			1	
Restaurant food display.....	4			2	2
Confectionery.....	4	3	1		
Bottling works.....	6	6			
Drug store.....	73	41	7	25	
Doctor's dispensary.....	1	1			
Patent medicine wagon.....	1				
Slaughterhouse.....	11	7		4	
Soda supplies.....	1	1			
Ice-cream factory.....	4	2		1	1
Fountain at confectionery.....	13	13			
Fountain at restaurant.....	2	2			
Fountain at news stand, pool room, etc.....	6	4		2	
Ice-cream parlor.....	1	1			
Boarding camp complaint.....	1				
Flour mill.....	18	18			
Elevator, flour and feed mill.....	3	3			
Feed and seed.....	1	1			
Special butter inspections.....	2				
Special fruit inspections (weights and measures).....	2				
Linseed oil inspections.....	2				
Special milk wagon, milk and dairy inspections for collecting samples of milk and cream.....	428				
Totals.....	748	171	17	116	8

Per cent of sanitation.
(Exclusive of those not classed.)

Good	54.80	per cent.
Good to fair	5.45	" "
Fair	37.18	" "
Poor	2.57	" "

The following table gives the summary of analyses of food and drugs reported to this division for the month of January, 1915:

FOOD.					DRUGS.				
KIND OF SAMPLE.	Number.....	Passed.....	Misbranded.....	Adulterated.....	KIND OF SAMPLE.	Number.....	Passed.....	Above stan- dard.....	Below stan- dard or mis- branded.....
Asparagus (canned).....	3	1		2	Aspirin, granular eff.....	1			1
Cider.....	1		1		Castor oil.....	1	1		
Cider (imitation).....	1		1		Castor oil, aromatized.....	1	1		
Evaporated pears.....	1			1	Hydrochloric acid diluted.....	1	1		
Extract of vanillin and coumarin.....	1		1		Hydrogen peroxide.....	1			1
Milk.....	393	359		34	Licorice powder, compound.....	1	1		
Cream.....	34	28		6	Morphine sulfate tablets.....	1	1		
Oysters (fresh).....	1	1			Heart-tonic tablets (as declared).....	1			1
Rice.....	3	3			Nitroglycerin tablets (as de- clared).....	1	1		
Rice breakfast food.....	1	1			Opium, tr. of.....	1			1
Salad oil.....	1			1	Sandol disfectant (as declared).....	1			1
Sardines in oil.....	10	3		7	Rocky Mt. hydro-mineral.....	1			1
Totals.....	450	396	3	51	Oil of sandalwood.....	1			1
					Spirits of nitre.....	1			1
					Turpentine.....	1	1		
					Tr. of iodine.....	3		1	2
					Beeswax.....	4	2		2
					White wax.....	4	2		2
					Totals.....	26	11	1	14

FOOD ANALYSIS LII.

E. H. S. BAILEY, Director; W. S. LONG, Analyst.

ASPARAGUS.

Insp. No. 60098. Label, "Holly Wreath California Asparagus. Guaranteed under the Food & Drugs Act." Manufacturer, San Pablo Canning Co., Oakland, Cal. Remarks: 50 stalks. Odor and flavor good. Tender. Inside of can darkened. Tin, 459 mg. per kilo. Illegal.

Insp. No. 60099. Label, "C. C. C. Brand Green Points Asparagus. Choice quality, delicious flavor, fresh packed." Manufacturer, California Fruit Cannery Association, San Francisco, Cal. Remarks: 60 small stalks. Good flavor and odor. Inside of can darkened. Tin, 823 mg. per kilo. Illegal.

Insp. No. 70483. Label, "Telmo Asparagus Tips." Jobber, Franklin McVeagh & Co., Chicago, Ill. Remarks: Tin, 425 mg. per kilo. Illegal.

Insp. No. 70484. Label, "Mission Brand Asparagus." Manufacturer, California Fruit Cannery Association, San Francisco, Cal. Remarks: Tin, 829 mg. per kilo. Illegal.

Insp. No. 70488. Label, "Town Brand Large White California Asparagus. Extra Quality." Packed for The Coast Products Co., San Francisco, Cal. Remarks: Tin, 275 mg. per kilo, Passed.

Insp. No. 70458. Label, "River View Selected Asparagus." Distributed by J. K. Armsby Co., California. Remarks: Short weight, 6.25 per cent. Tin, 377 mg. per kilo. Illegal.

Insp. No. 70460. Asparagus. Tin, 76 mg. kilo. Passed.

Insp. No. 100046. "Acropolis Asparagus." Packed for Nave-McCord Mercantile Co., St. Joseph, Mo. Remarks: Tin, 383 mg. per kilo. Illegal.

BAKING POWDERS.

Insp. No. 60060. Label, "Rumford's Baking Powder." Manufacturer, Rumford Chemical Works, Providence, R. I. Remarks: CO₂ available, 3.55 per cent. Sample old; powder deteriorated. Below standard.

Insp. No. 90728. Baking powder. Passed.

Insp. No. 100025. Baking powder. Label, "Rumford's Baking Powder." Manufacturer, Rumford Chemical Works, Providence, R. I. Passed.

BEVERAGES.

Insp. No. 21015. Label, "Sunset Apple Cider. Contains tartaric acid." Manufacturer, Frisco Cider Co., St. Louis, Mo. Retailer, Dr. G. M. Jaquiss, Edmond, Kan. Remarks: Alcohol, 5.48 per cent by volume. Should not contain tartaric acid. Illegal.

Insp. No. 70464. Label, "Gilt Edge Cider." Manufacturer, Morgan-Abbott-Barker Co., Louisville, Ky. Jobber, Allen Bottling Works, Wichita, Kan. Retailer, J. Schauf, Garden Plain, Kan. Remarks: Alcohol, 7.95 per cent by volume.

Insp. No. 70466. Label, "Gilt Edge Apple Cider." Manufacturer, Morgan-Abbott-Barker Co., Louisville, Ky. Jobber, Allen Bottling Co., Wichita, Kan. Retailer, J. G. Wolfe, Murdock, Kan. Remarks: Alcohol, 7.25 per cent by volume.

Insp. No. 70467. Label, "Maybelle Brand Cider." Manufacturer, Gast Crofts & Co., Louisville, Ky. Retailer, W. M. Hobson, Kingman, Kan. Remarks: Alcohol, 5.25 per cent by volume.

Insp. No. 90691. Apple Cider. Manufacturer, Larned Bottling Works, Larned, Kan. Retailer, L. G. Mellott, Hudson, Kan. Remarks: Contains benzoic acid, which is not specified on label; also alcohol, 0.70 per cent by volume. Illegal.

Insp. No. 80444. Label, "Gilt Edge Apple Cider." Manufacturer, Morgan-Abbott-Barker Co., Louisville, Ky. Retailer, Allen Bottling Works, Wichita, Kan. Remarks: Alcohol, 5.65 per cent by volume.

Insp. No. 90692. Apple Cider. Manufacturer, J. F. Gere, Stafford, Kan. Retailer, L. N. Shepard, Hudson, Kan. Remarks: Alcohol, 6.85 per cent by volume.

Insp. No. 90693. Apple Cider. Manufacturer, Hutchinson Cider & Vinegar Works, Hutchinson, Kan. Retailer, Larned Bottling Works, Larned, Kan. Remarks: Contains sodium benzoate, which is not stated. Illegal.

Insp. No. 90761. Label, "Old Log Cabin Apple Cider." Manufacturer, Clarksville Cider Co., St. Louis, Mo. Retailer, R. A. Johnson, Alta Vista, Kan. Remarks: Alcohol, 7.8 per cent by volume.

Insp. No. 100040. Label, "Clarksville Pure Apple Cider." Manufacturer, Clarksville Cider Co., St. Louis, Mo. Retailer, N. J. Walker, Rock Creek, Kan. Remarks: Alcohol, 6.90 per cent by volume.

Insp. No. 100043. Label, "Frank Pyle's Pure Apple Juice." Passed.

Insp. No. 90650. Label, "Tanhauser Nonintoxicating Beer." Manufacturer, Royal Brewing Co., Kansas City, Mo. Retailer, Mrs. O. E. Cisco, Newton, Kan. Remarks: Alcohol, .4 per cent by volume. Misbranded. Illegal.

Insp. No. 21012. "Imitation Blackberry Cider." Manufacturer, Doniphan Candy Co., St. Joseph, Mo. Retailer, Mills Drug Co., Portis, Kan. Remarks: Contains coal-tar color; also alcohol by volume, 5.40 per cent. Illegal.

Insp. No. 60085. "Blackberry Cider." Manufacturer, Frisco Cider Co., St. Louis, Mo. Retailer, F. B. Root, Campus, Kan. Remarks: Contains coal-tar color; also alcohol by volume, 5.37 per cent. Illegal.

Insp. No. 20966. Lemonade. Passed.

Insp. No. 20967. Lemonade. Passed.

Insp. No. 20968. Lemonade. Passed.

Insp. No. 20969. Lemonade. Passed.

Insp. No. 90649. Lemonade. Passed.

Insp. No. 90682. Lemonade. Passed.

Insp. No. 20970. Orangeade. Passed.

Insp. No. 20971. Orangeade. Passed.

Insp. No. 90648. Orangeade. Manufacturer, W. D. Byers & Son, Newton, Kan. Remarks: An imitation orangeade. Illegal.

Insp. No. 90759. "Gliddens' Orangeade Mixture." Manufacturer, Glidden Food Co., Rochester, N. Y. Retailer, O. M. Shawe, Dwight, Kan. Jobber, Davis Mercantile Co., Topeka, Kan. Remarks: Sucrose, citric acid and coal-tar dye present. Labeled "Orangeade" in large letters; the word "Mixture" following in smaller type and less conspicuous by reason of its color and background. "Imitation Orangeade Mixture" would express the truth.

Insp. No. 90681. Orangeade. Manufacturer, Joe Alton, Lyons, Kan. Remarks: Coal-tar dye present. Should be labeled "Imitation Orangeade."

Insp. No. 60086. Label, "Old Hickory, Peach Cider." Manufacturer, Los Angeles Fruit Products Co., St. Louis, Mo. Retailer, Gladd Brothers, Weskan, Kan. Remarks: One-tenth of 1 per cent benzoate of soda; harmless color; flavor added; alcohol, 10.54 per cent by volume. Illegal.

COCOAS.

Insp. No. 70432. Cocoa. Passed.

Insp. No. 70472. Label, "Hershey's Powdered Cocoa." Manufacturer, Hershey Mfg. Co. Retailer, C. A. Amerman, Kingman, Kan. Remarks: Ash, 10.9 per cent of fat-free sample. Fat, 4.39. Microscope shows presence of cocoa shell. Powder gritty. High ash indicates added shells. Illegal.

Insp. No. 90635. Cocoa. Passed.

Insp. No. 90634. Cocoa. Passed.

Insp. No. 90746. Cocoa. Passed.

DRIED FRUITS.

Insp. No. 70468. Apples. Passed.

Insp. No. 90645. Label, "Ensign Dried Apricots." Manufacturer, Rosenberg Brothers & Co., California. Remarks: Contains sulphur dioxide, 1.08 grams per kg. Illegal.

Insp. No. 90664. Dried Apricots. Remarks: Contains sulphur dioxide, 554 mg. per kg. Illegal.

Insp. No. 90686. Apricots. Manufacturer, Phenix Packing Co., Fresno, Cal. Remarks: Sulphur dioxide, 986 mgs. per kg. Illegal.

Insp. No. 60093. "Cadet Apricots." Remarks: Contains sulphur dioxide, 1599 mg. per kg. Illegal.

Insp. No. 90737. Dried Apricots. Remarks: Contains sulphur dioxide, 2204 mg. per kg. Presence of SO₂ not indicated. Adulterated and misbranded. Illegal.

Insp. No. 90754. "Invader Apricots." Remarks: Not labeled as bleached with sulphur. Contains sulphur dioxide, 1150 mg. per kg. Adulterated and misbranded. Illegal.

Insp. No. 60102. Currants. Passed.

Insp. No. 60095. "Punch Dried Peaches." Remarks: Contains sulphur dioxide, 1579 mg. per kg. Illegal.

Insp. No. 90665. "Blue Diamond Dried Peaches." Remarks: Contains sulphur dioxide, 1312 mg. per kg. Illegal.

Insp. No. 90666. "Punch Brand Muir Evaporated Peaches." Remarks: No statement showing use of sulphur dioxide. Contains sulphur dioxide 1548 mgs. per kg. Misbranded and adulterated. Illegal.

Insp. No. 90687. Muir Dried Peaches. Manufacturer, Phenix Packing Co., Fresno, Cal. Remarks: Contains sulphur dioxide, 430 mgs. per kilo. Illegal.

Insp. No. 90738. Dried Peaches. Remarks: No statement showing use of sulphur dioxide. Contains sulphur dioxide, 434 mgs. per kilo. Misbranded. Illegal.

Insp. No. 60067. Raisins. Passed.

Insp. No. 60068. Raisins. Passed.

Insp. No. 60096. Raisins. Passed.

Insp. No. 60097. Raisins. Passed.

Insp. No. 60100. Raisins. Passed.

Insp. No. 60101. Raisins. Passed.

Insp. No. 90758. Label, "Thompson Seedless Raisins." Manufacturer, J. K. Armsby Co., Marysville, California. Remarks: Contains sulphur dioxide, 528 mgs. per kilo. Illegal.

EXTRACTS.

Insp. No. 20961. Label, "Watkins Imitation Maple Flavor." Manufacturers, J. R. Watkins Medical Co., Winona, Minn. Retailer, G. H. Newell, Burlingame, Kan. Remarks: Caramel present in large quantities. Illegal.

Insp. No. 20959. Vanilla. Passed.

Insp. No. 20960. Vanilla. Manufacturer, J. R. Watkins Medical Co., Winona, Minn. Retailer, G. H. Newell, Burlingame, Kan. Remarks: Caramel present. Illegal.

Insp. No. 70473. Label, "Flavor of Vanillin and Coumarin." Manufactured for P. L. Owsley, Pittsburg, Kan. Retailer, Bell & Hagman, Pittsburg, Kan. Remarks: Should be labelled as a compound or an imitation. Misbranded. Illegal.

FRUIT PRODUCTS.

Insp. No. 60063. Apple Butter. Passed.

Insp. No. 60065. Apple Butter. Passed.

Insp. No. 60069. Apple Butter. Passed.

Insp. No. 60073. Apple Butter. Passed.

Insp. No. 60074. Apple Butter. Passed.

Insp. No. 60077. Peach Butter. Passed.

Insp. No. 70431. Apple Butter. Passed.

Insp. No. 100031. Apple Butter. Passed.

Insp. No. 70436. Label, "Compound Glucose Apple Jelly. $\frac{1}{8}$ of 1 per cent tartaric acid, 60 per cent apple juice, 40 per cent glucose." Manufacturer, Williams Brothers Co., Detroit, Mich. Retailer, C. C. Arnold, Anthony, Kan. Remarks: Contents molded and decomposed. Should not contain tartaric acid. More than 40 per cent commercial glucose. Illegal.

Insp. No. 90689. Apple Jelly. Passed.

Insp. No. 100044. Label, "Marmo Plum Preserves." Manufacturer, Corn Products Ref'g Co., New York City. Retailer, T. S. Brown, Paradise, Kan. Remarks: A glucose or corn syrup preserve.

HONEY.

Insp. No. 90628. Honey. Passed.

Insp. No. 90757. Honey. Passed.

PICKLES.

Insp. No. 90675. Sour Pickles. Retailer, Central Mercantile Co., Hutchinson, Kan. Remarks: Alum present. Illegal.

Insp. No. 90713. Sour Pickles. Manufacturer, Elonia Mfg. Co., Pueblo, Colo. Retailer, L. E. Hoffman, Nickerson, Kan. Remarks: Alum present. Illegal.

Insp. No. 90718. Sour Pickles. Passed.

Insp. No. 90747. Label, "Fox River Sour Midgets. No. alum used." Manufacturer, Alart & McGuire, Green Bay, Wis. Remarks: Alum present. Illegal.

Insp. No. 21004. Sweet Pickles. Manufacturer, Otto Keuhne. Topeka, Kan. Retailer, A. P. Challis, Topeka, Kan. Remarks: Benzoic acid present. Illegal.

Insp. No. 90672. Sweet Pickles. Jobber, Central Merc. Co., Hutchinson, Kan. Retailer, T. V. Mason, Hutchinson, Kan. Pickles in Heinz keg. Remarks: Alum present. Illegal.

Insp. No. 90673. Sweet Pickles. Jobber, Central Merc. Co., Hutchinson, Kan. Retailer, Geo. A. Hunsley, Hutchinson, Kan. Remarks: Alum present. Illegal.

Insp. No. 90674. "Libby Sweet Pickles." Retailer, Central Merc. Co., Hutchinson, Kan. Remarks: Alum present. Illegal.

Insp. No. 90714. Mixed Sweet Pickles. Passed.

Insp. No. 90721. Sweet Pickles. Jobber, Central Merc. Co., Hutchinson, Kansas. Retailer, J. S. Dillon, Nickerson, Kan. Remarks: Alum present. Illegal.

Insp. No. 90764. Label, "Fox River Sweet Gherkins." Manufacturer, Alart & McGuire, Green Bay, Wis. Retailer, Brewer & Marchette, Osage City, Kan. Remarks: Contains alum. Benzoate of soda found and not stated. Illegal.

Insp. No. 90765. Label, "Fox River Sour Gherkins." Manufacturer, Alart & McGuire, Green Bay, Wis. Retailer, Gamba Brothers, Osage City, Kan. Remarks: Alum present. Illegal.

Insp. No. 90766. Label, "Fox River Sweet Gherkins." Manufacturer, Alart & McGuire, Green Bay, Wis. Retailer, Gamba Brothers. Osage City, Kan. Remarks: Alum present. Illegal.

RICE.

Insp. No. 70465. Rice. Passed.

Insp. No. 90772. Rice. Passed.

Insp. No. 100019. "Unpolished Rice." Packer, Johnson-Layne Coffee Co., St. Louis, Mo. Retailer, J. M. Guyot, Douglas, Kan. Remarks: Ash 0.3 per cent. An unpolished rice should have an ash in excess of 1.00 per cent. Misbranded in that it is labeled "Unpolished" when in fact it is "Polished."

VINEGAR.

Insp. No. 90741. Vinegar. Passed.

Insp. No. 90743. Vinegar. Passed.

Insp. No. 90771. Label, "Apple Cider Vinegar. Purity & strength guaranteed." Manufacturer, Lyon Orchard Co., Admire, Kan. Retailer, F. M. Lowder, Allen, Kan. Remarks: Below standard in acidity. Illegal.

MISCELLANEOUS.

Insp. No. 20974. Label, "Acidine. A liquid acid substitute. Three-fourths oz. acidine equals 1 oz. dry acid." Manufacturer, Sethness Co., Chicago, Ill. Retailer, Osage Bottling Works, Osage, Kan. Remarks: Phosphoric acid 54.76 per cent.

No. 20285A. Label, "Checkers." A pop-corn confection. Manufactured by Shotwell Mfg. Co., Chicago, Ill. Sent to laboratory by Mrs. A. J. Hagel, Hartford, Kan., claiming that children were poisoned. Remarks: No poisons detected.

Insp. No. 90636. Orange color. Passed.

Insp. No. 20953. Label, "Foamigator." A foam producer used in soda syrups. Manufacturer, C. D. Smith Drug Co., St. Joseph, Mo. Remarks: Saponin present by Leach's Haemolysis test. Illegal.

Insp. No. 100045. Kippered Herring. Passed (as to tin).

Insp. No. 90711. Lye Hominy. Passed.

Insp. No. 20991. Label, "Puritan Salad Oil." No declaration of contents. Jobber, Wherrett-Mize Drug Co., Atchison, Kan. Retailer, Bixby & Potter, Republic, Kan. Remarks: Not a pure olive oil, but mixed with a seed oil, probably a small amount of sesame oil. Illegal.

No. 100029. Yeast. Passed.

How to Cure a Cold.

The way to (ka-choo!) to cure a cold
Is just (ka-chee!) like this:
Do not in wraps yourself enfold
As in a chrysalis;
Expose yourself to good fresh air
A lot (ka-choo! ka-chee!),
Don't make yourself, by too much care,
As tender as can be;
Take lots of outdoor exercise,
Don't dread the chill night air,
Shun heated rooms, if you'd be wise,
And rubbers never wear;
Thus you will hardened be (ker-chow!)
Till colds won't trouble you,
I've proved this recipe—that's how
I always do (ka-choo!).

—LEE SHIPPEY, in *K. C. Star*.

What the Growing Child Needs.

The appetite of a growing boy is a constant source of astonishment to his mother, and the ease with which he consumes more food than the adult members of the family convinces her that his tastes are abnormal. She forgets that in the second period of rapid growth that comes early in the "teens" Nature is making every effort to build a perfect individual and needs all the help she can get. She can not build without a wealth of material, and so every boy who is physically more active than his father and mother, who is using his brain for study and growing rapidly besides, needs an abundant supply of food. What should this food be? Should his diet be limited or his taste questioned? Generally speaking, no. He needs all kinds of food, and he generally craves what he needs. He needs protein to build a man's frame, and he needs a larger proportion of it than the average adult requires. He also needs fat and starches to furnish the heat and energy burned out in his ever-active body and to keep his tissues plump and rounded. While he needs much protein, do not expect him to get it all from meat. Indeed, it is better that no small part of this nitrogenous food come from milk and eggs, cheese, beans and peas. If he has plenty of these rich and relatively cheap foods he will not crave meat so inordinately as some growing boys do. The boy needs a large quantity of carbohydrates. That is why his demand for bread and butter is

Insp. No. 90747. Label, "Fox"
Manufacturer, Alart & McGuire
present. Illegal.

Insp. No. 21004. Sweet
Topeka, Kan. Retailer, A. P.
zoic acid present. Illegal.

Insp. No. 90672. Sweet
inson, Kan. Retailer, T.
Heinz keg. Remarks: A

Insp. No. 90673. Sw
inson, Kan. Retailer,
Alum present. Illegal

Insp. No. 90674.
Co., Hutchinson, Kar

Insp. No. 90714.

Insp. No. 90721

inson, Kansas.

Alum present.

Insp. No. 90

turer, Alart &

chette, Osage

soda found

Insp. No

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choice to a few arti-

veruse the one he likes

the tastes or foods of his

and will probably result in an

grown people wish to experiment

the right to do so, but they do not

act their ideas of what is good for them

children. Good food in variety and plenty

the child needs, and if it is provided his taste

abnormal nor will his astonishing appetite result

than healthy rapid growth.

The Sane Solution of the Sex Problem.

Where can you find more common sense in small compass
than the following from Dr. Frank Crane of New York?

The sex problem is mental more than physical. Get your
mind right and your body will not annoy you; there never was
an unclean act that did not spring from an unclean mind.

Mingle as much as possible, on terms of decency and cour-
tesy, with members of the opposite sex; do not avoid them.
Nothing is so good an antidote to morbidity and inflamed im-
agination as wholesome association of men and women. I am
opposed to boys' schools, men's clubs, and women's clubs; the
normal condition for all is companionship.

Get married as early as you can. Don't wait until you get
rich. A man that can not get on with a wife and children,
could not get on alone.

Avoid novels, plays, society, conversation and all amuse-
ment and environment where there is over-suggestion of sex
matters.

When the gratification of sex desire is reserved as the ex-
pression of true married love, marriage is likely to be per-
manently happy.

Gratification of sex ;
telligent control of it is

Sex force when con

ly or womanly ; c

making you

' strong e

Do be on

you think that picture

Samuel Johnson. "No," was
is."

Do not be harsh with the habits of un
those unhappily married. A congenial mar
satisfactory arrangement, and those who do not
fortunate condition are more or less handicapped.

Be strict with yourself, lenient with others ; it is not eno
to be virtuous. Virtue itself becomes unclean when it is
loving, forgiving and kind.

TIN

1 of Health.

he Board, Topeka, Kan.

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VOL. XI.

9 52.

The Menace of the Feeble-minded.

The economic and social problems connected with the feeble-minded are of far greater importance than the average "man on the street" realizes. Whatever the cause, the fact is that this class is increasing enormously in all civilized countries. Some figures in a report of the Committee of Visitors of the State Charities of New York are commented on in *The Journal of the American Medical Association*. According to this report, there are in New York, at present, 32,000 feeble-minded persons. Of these, 4900 are provided for in institutions especially designed for their care, and 4500 in other institutions, leaving at large 22,600. It has been estimated that of the 32,000 feeble-minded, 10,000 are girls and women of child-bearing age, 1750 of whom are cared for in institutions designed for the care of such persons, and 1625 are confined in reformatories, prisons and almshouses, leaving about 7000 at large in the community. Goddard estimates that, in the way of spreading disease and immorality and increasing the stock of feeble-minded, a girl or woman of this class, of child-bearing age, is three times as great a menace to the community as a feeble-minded boy or man. The Royal Commission of England reports that in that country the feeble-minded are increasing at

twice the rate of the general population. The importance of providing, by the establishment of additional institutions and the completion of those under way, for the custodial care or control of a greater number of the feeble-minded can not be overestimated. The statements of Amos W. Butler, of Indiana, to the effect that feeble-mindedness produces more pauperism, degeneracy and crime than any other force, that it touches every form of charitable activity, that it is felt in every part of the state, and affects in some way all the people, and that its cost is beyond comprehension, are again quoted as the best argument for the policies advocated.

Soap Bark or Saponin.

We have found that a few bottlers are using foam preparations of unknown composition, and one of the ingredients is found to be soap-bark or saponin. It has been repeatedly shown that saponin and soap-bark are not fit articles to be used in foods or beverages; in fact, they are poisonous, and we have repeatedly warned dealers and bottlers against the use of this class of products. If bottlers continue to use any product which contains soap-bark or saponin, they must take their chances of being prosecuted, for this Department will prosecute all those who are found to be using this class of preparations.—*North Dakota Food Bulletin.*

A Word for Father.

And now who gets his meed of praise?

Father.

Who is it labors all his days?

Father.

Who always has to pinch and strive

To keep the family alive,

And sheds his hair at thirty-five?

Father.

Who always home his wages brings?

Father.

Who sees them flit for clothes and things?

Father.

Who sees them go for food and rent,

And never gets himself a cent

Except what he's already spent?

Father.

Whose hats two dollars cost, no more?

Father.

Who sees his wife blow in a score?

Father.

Who has to wear a saw toothed shirt

And collars which his thorax hurt,

So ma can have her hobble-skirt?

Father.

Who goes to bed a weary wreck?

Father.

Who pulls the bedclothes round his neck?

Father.

Who then is forced, though he may swear,

To rise and tiptoe down the stair

To see if "there's a burglar there"?

Father.

Who sees the cost of living soar?

Father.

Who says, "Well soon we'll eat no more"?

Father.

Who, when the month's first day comes round,

Half buried to his ears is found

In bills that cause him woe profound?

Father.

But who is happy all the while?

Father.

Who only asks a pleasant smile?

Father.

Who only sees the simple bliss

Of welcome hug and loving kiss,

And hates such patronage as this?

Father!

—PAUL WEST, in *New York World*.

"We Must Fight—TOGETHER!"

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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MARCH, 1915.

VOL. XI.

CONTENTS.

Morbidity Statistics for February, 1915, page 50.

Report of Division of Food and Drugs for February, 1915, page 52.

Food Analyses No. LIII, page 55.

Kansas Food Standards Stand Test of Supreme Court, page 62.

The School for Physicians and Health Officers, page 65.

New Public Health Legislation, page 73.

Lost and Found, page 76.

Sleep, page 77.

What the Baby Needs and Does Not Need, page 77.

Buying Health in Bottles, page 78.

Fire Protection and Health Protection, page 78.

Cleanup Day, page 79.

Wake up!

Clean up!

The hibernating season is over—come out!

"A bum steer"—the patent-medicine cures.

The clean-up, paint-up campaign is abroad in the land.

"Cleanliness and prosperity are allies against filth and poverty.

Dirty milk and high infant mortality are inseparable companions.

It's a long, long way to full-time health officers, but our goal is still there.

Look what's here!—the Summer School for Physicians and Health Officers.

The Columbus, Kan., school board requires that all teachers in the public schools be examined for tuberculosis before contract is made. Columbus has a wise school board.

**"At early dawn when first from bed you rise,
Wash in cold water, both your hands and eyes;
With brush and comb, then cleanse your teeth and hair,
And thus refreshed, outstretch your limbs with care."**

—Ancient Rhyme.

MORBIDITY STATISTICS FOR FEBRUARY, 1915.

Number of cases reported from each county.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Measles.....	Smallpox.....	Mumps.....	Chicken pox.....	Whooping cough.....	Meningitis.....	Tetanus.....	Poliomyelitis.....	Trachoma.....	Other communicable diseases.....
THE STATE.....	33	135	83	459	281	267	148	68	5	1	1	2	46
Allen.....	0	2	2	0	0	0	0	0	0	0	0	0	0
Anderson.....	0	0	0	0	17	0	0	0	0	0	0	0	0
Atchison,* except Atchison city*													
Barber.....	0	0	0	0	6	0	0	0	0	0	0	0	0
Barton.....	0	1	0	0	2	16	0	4	0	0	0	0	0
Bourbon, except Fort Scott.....	0	0	0	0	0	0	1	0	0	0	0	0	0
Brown.....	0	1	1	0	5	0	1	4	0	0	0	0	0
Butler.....	1	6	0	55	3	0	20	0	0	0	0	0	4
Chase.....	0	0	0	0	2	0	0	0	0	0	0	0	0
Chautauqua.....	1	2	0	0	2	0	0	1	0	0	0	0	0
Cherokee.....	0	5	1	0	14	0	0	0	0	0	1	0	0
Cheyenne.....	0	0	0	8	3	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	3	0	0	0	0	0	0
Clay.....	0	0	0	1	1	1	0	2	0	0	0	0	0
Cloud.....	0	2	4	6	0	37	1	0	0	0	0	0	0
Coffey.....	1	1	3	0	1	0	0	0	0	0	0	0	0
Comanche.....	0	0	0	0	42	0	0	0	0	0	0	0	0
Cowley.....	0	3	1	8	8	0	4	0	0	0	0	0	0
Crawford, except Pittsburg.....	1	14	1	14	8	0	1	1	1	0	0	0	0
Decatur.....	0	2	0	2	1	0	0	0	0	0	0	0	0
Dickinson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Doniphan.....	0	1	0	0	5	0	0	0	0	0	0	0	3
Douglas.....	0	2	0	1	0	25	20	15	0	0	0	0	0
Edwards.....	0	1	0	0	1	0	0	0	0	0	0	0	0
Ellis.....	0	0	0	0	0	1	0	0	0	0	0	0	0
Ellsworth.....	1	5	0	14	0	1	0	0	0	0	0	0	0
Finney.....	0	1	0	0	1	0	0	0	0	0	0	0	0
Ford.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Franklin.....	0	1	0	0	2	0	0	0	0	0	0	0	0
Geary.....	0	1	5	0	0	0	0	0	0	0	0	0	0
Gove.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Graham.....	0	0	19	0	0	0	0	0	0	0	0	0	0
Grant*.....													
Gray.....	0	0	0	0	1	0	0	7	0	0	0	0	0
Greeley.....													
Greenwood.....	3	3	0	0	6	1	1	0	0	0	0	0	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	0	43	2	4	0	0	0	0	0	0
Harvey*.....													
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackson.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Jefferson.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Jewell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Johnson.....	1	0	0	0	0	0	6	0	0	0	0	0	0
Kearny.....	1	0	1	0	1	0	0	0	0	0	0	0	0
Kingman.....	0	0	0	0	5	0	0	0	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Labette,* except Parsons.....	0	6	1	2	1	0	1	2	0	0	0	0	0
Lane.....	0	0	0	0	5	0	0	0	0	0	0	0	0
Leavenworth, except Leavenworth city.....	0	5	0	0	0	0	0	0	0	0	0	0	0
Lincoln.....	1	9	2	0	0	5	4	0	0	0	0	0	2
Linn.....	0	1	0	1	0	7	0	3	0	0	0	0	0
Linn.....	1	2	0	36	0	0	6	0	0	0	0	0	0

* No report received.

MORBIDITY REPORTS FOR FEBRUARY, 1915—Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Measles.....	Smallpox.....	Mumps.....	Chicken pox.....	Whooping cough.....	Meningitis.....	Tetanus.....	Polio-myelitis.....	Trachoma.....	Other communicable diseases.....
Logan.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Lyon.....	0	0	2	0	0	0	0	0	0	0	0	0	0
Marion.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Marshall.....	0	0	0	0	0	0	0	0	0	0	0	0	0
McPherson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Meade.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Miami.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitchell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Morris.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Neosho.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Ness.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Norton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Oago.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Osborne.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Ottawa.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Pawnee.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Pratt*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Reno, except Hutchinson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Republic.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Rice.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Riley.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Rooks*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Rush.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Russell*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Saline*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Seward.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Shawnee, except Topeka.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sheridan.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sherman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Stafford*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Stanton*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Thomas.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Trego.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wabaunsee*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Woodson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wyandotte, except Kansas City.....	0	0	0	0	0	0	0	0	0	0	0	0	0

* No report received.

Other communicable diseases: Pneumonia, 28; conjunctivitis, 2; syphilis, 4; erysipelas, 3; carcinoma, 3.

Report of the Division of Food and Drugs, Kansas State Board of Health.

FOR THE MONTH OF FEBRUARY, 1915.

LEON A. CONGDON, B. S., Chief of Division.

During the month of February, 1915, our traveling inspectors have made 520 inspections. Inspections were made in seventy-seven cities and towns of the state.

The following table gives a summary of the inspections and kind of places inspected:

SUMMARY OF SANITARY INSPECTIONS FOR FEBRUARY 1915.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Grocery.....	154	34	4	114	2
Meat market.....	23	9		13	1
Grocery and meat.....	10	5		5	
Bakery.....	18	10		7	1
Grocery and bakery.....	2	1		1	
Grocery, meat and bakery.....	3	2		1	
Grocery, feed and poultry.....	1			1	
Grocery and feed.....	3			3	
Bakery and restaurant.....	3	1		1	1
Bakery and confectionery.....	1	1			
Meat and restaurant.....	1			1	
Confectionery and candy kitchen.....	6	3		2	1
Tea and coffee store.....	1	1			
Bottling works.....	2	2			
Creamery.....	2	1		1	
Slaughterhouse.....	5	1		4	
Drug store.....	38	18	9	10	1
Pretzel factory.....	1			1	
Flour mill.....	6	6			
Feed mill.....	2	1			
Wholesale grocery.....	2			2	
Special food display inspections.....	14				
Special wagon scale inspections.....	1				
Special milk inspections.....	221				
Totals.....	520	96	13	167	7

Per cent of Sanitation.

(Exclusive of those not classed.)

33.92 per cent, good.

4.59 per cent, good to fair.

59.01 per cent, fair.

2.48 per cent, poor.

The feature of the inspection work for February was the completion of our milk inspection survey of the state. The milk supply of thirty towns having a population from 3000 to 10,000 was inspected. The details of this milk investigation will be published in a special milk bulletin, and it is hoped this report will be available to the public very soon.

The following table gives the summary of analyses of food and drugs reported to this division for the month of February, 1915:

FOOD.					DRUGS.				
KIND OF SAMPLE.	Number.....	Passed.....	Misbranded...	Adulterated...	KIND OF SAMPLE.	Number.....	Passed.....	Above stan- dard.....	Below stan- dard, mis- branded...
Baking powder.....	6	6			Beeswax.....	2	1		1
Butter.....	2	1	1		Castor oil.....	1	1		
Apple butter.....	1	1			Cod liver oil.....	1	1		
Beverage.....	1		1		Elixir digestive comp.....	1	1		
Canned chile con carne.....	1			1	Essence of pepain.....	1			1
Cream.....	18	16		2	Gum asafoetida.....	1	1		
Corn meal.....	1	1			Tr. of asafoetida.....	1	1		
Evaporated milk.....	1	1			"Preservo Fumigator".....	1			
Extract of lemon.....	1	1			Wright's Liquid Smoke.....	1			
Flour.....	2		1		Saltpeter.....	1			1
Falsa syrup.....	2				Turpentine.....	1	1		
Ice cream.....	1	1							
Ideal sausage flavor.....	1			1					
Milk.....	221	187		34					
Powdered sugar.....	1	1							
Instant Postum.....	1	1							
"Pep-O-Mint" (confect.).....	1								
Sweet pickles.....	1	1							
Totals.....	263	218	3	38					
					Totals.....	12	7		3

The beverage declared misbranded and illegal was submitted to this office by a consumer, who claimed it was supposed to have no alcohol. Our analyst found 10.54 per cent of alcohol. The butter declared misbranded was passed as to composition, but the name of the place where manufactured was not correct.

One sample of canned chile con carne was declared adulterated in that it contained several large stones, possibly due to the use of not thoroughly cleaned chile beans. An investigation of the canned chile on the market has been started by this division.

Two samples of cream were declared adulterated in that they were deficient in butter fat.

One sample of flour was misbranded in that the sack failed to give the information that the flour was bleached.

The sample of "Ideal Sausage Flavor" was adulterated in that it was claimed to contain only pure spices, while in fact it consisted of some wheat flour.

Thirty-four samples of milk were adulterated in that they did not conform to our standard for milk. These samples of milk were part of the total number of 221 samples collected

by our inspectors for the month of February. One hundred and eighty-seven samples of milk passed the requirements.

One sample of beeswax was declared adulterated and below standard in that it contained some paraffin.

The essence of pepsin below standard and deteriorated was declared illegal because it had practically no digestive strength.

A sample of saltpeter purchased by a customer from a grocery store and sent to this office was found by our analyst to be principally salt, with but few crystals of saltpeter.

A CORRECTION.

This division wishes to correct an error in printing in the January BULLETIN of this department, on page 10. The "two samples of ground ginger not standard" should have been paragraphed alone. These samples were *not* of the Lee brand, but were manufactured and jobbed by other firms. In regard to the Lee brand pancake flour, which was in this same paragraph declared illegal, it is only fair to the H. D. Lee Mercantile Company of Salina, Kan., to state that this flour had been in the possession of the retailer long enough to have been infected with "dead and live larvæ and flour beetles, etc." At the top of page 10, in this same January, 1915, BULLETIN of this department, the writer also wishes to state, in fairness to this same H. D. Lee Mercantile Company, and to correct any false impression at the statement therein, in that "two samples of baking powder were declared adulterated, etc." and that "these brands of baking powder were the Lee brand and Pure Quill brand, respectively," that these mentioned samples were, according to copy of invoice produced by the H. D. Lee Mercantile Company, a number of years old, and hence could not be taken as representative samples of their brands of baking powder. In this connection the writer might state that retail dealers should be more careful in buying large stocks of baking powder, unless they can use same for retail trade in a short time. Baking powder deteriorates with age.

AN EXPLANATION.

Another explanation needs to be noted in the February BULLETIN of this department, page 42, top of page, under the topic Food Analysis LII: "21004. Sweet Pickles, Manufacturer Otto Kuehne, Topeka, Kan.; retailer, A. P. Challis, Topeka, Kan. Remarks. Benzoic acid present. Illegal." Benzoic

acid was present, but it was first added to the pickles by the manufacturer in the shape of benzoate of soda. This manufacturer claims that he labeled the wholesale package with a stencil denoting benzoate of soda was present. It is, therefore, evident that this sample was illegal because of the retailer not keeping the original labeling on the barrel of pickles, and not giving the inspector the information that benzoate of soda was present, or not labeling the retail package that the said article in the package was preserved with benzoate of soda.

SCALES, WEIGHTS AND MEASURES.

During the month of February our inspectors examined 290 scales, 892 weights and 82 measures. They condemned eight weights.

We have received Food Analyses LIII from the Agricultural College food laboratory. This gives the results of analyses of food samples submitted by the members of this division since the last report from that particular laboratory. The same is herewith transmitted.

Food Analyses No. LIII.

PROF. J. T. WILLARD, Analyst for the Board, and C. A. A. UTT, Associate.

MANHATTAN, KAN., MARCH 11, 1915.

We submit the following tabulated statements concerning inspection samples of ice cream, fish, oysters, etc., pickles, condiments, etc., vinegar, catsup, peanut and datenut butter, and fruit butters, examined since our previous report on these classes of foods, up to January 1, 1915.

The tendency to sell ice cream that is below the standard in its content of fat is still notable, and the corrosion of containers by sardines is worthy of serious attention. The fresh oysters have frequently shown total solids considerably in excess of the standard requirement of 10 per cent, and there is no doubt that our standard is too low in this respect.

It has been suggested that the peanut butter upon the market is not in all cases genuine, being adulterated by the addition of oil not found in peanuts. It is also possible that the plasticity of the butter may be increased by the addition of peanut oil. This would constitute an enrichment of the butter by increasing the percentage of oil, accompanied by a corresponding diminution in the percentage of protein. While

from one point of view this would be an adulteration, it would be less objectionable than would be addition of a different oil. An investigation of these questions was made by taking up inspection samples of the product of as many manufacturers as possible. The general results were perfectly reassuring in respect to the character of peanut butters on the market.

In the examination of samples of peanut butter the percentage of oil present was determined, and the refractive index of the oil ascertained. In a number of cases the iodine number was determined also. Roasted peanuts were extracted with ether, and the sample was found to yield 51.17 per cent of oil. Most of the samples of peanut butter contained less than this, even those which showed a highly plastic and fluid consistency. On the basis of these data, we consider that all of the samples analyzed were genuine as to composition, none of them indicating the addition of either foreign oil or peanut oil. One sample was short weight, containing 10.9 ounces net instead of 12 ounces.

The article sold as "Datenut Butter" is a dark brown sweetish paste, tasting like dates and peanuts. If the only nuts present are peanuts the name "datenut" would seem to be misleading.

In respect to catsup, it is a satisfaction to draw attention to the great change in the quality of this condiment that has taken place within the last four years. At that time 37 samples showed so great a contamination by bacteria, yeasts and spores that only four would conform to the requirements of the present standard. The continued efforts of the State Board of Health have brought about the present condition, in which almost all conform to the standard.

ICE CREAM.

<i>Insp. No.</i>	<i>Seller.</i>	<i>Remarks.</i>
20908.	Wells & Webb, Irving.	Fat, 14 per cent. Passed.
20913.	I. J. Kinyon, Bern.	Fat, 14.5 per cent. Passed.
20938.	Harrison Drug Co., Kansas City.	Fat, 14 per cent. Passed.
20939.	Bodine & Johnson, Kansas City.	Fat, 16 per cent. Passed.
20940.	Geo. M. Atwood, Kansas City.	Fat, 9.8 per cent. Illegal.
60012.	W. Stratos, Leavenworth.	Fat, 11.6 per cent. Illegal.
60013.	John McCool, Leavenworth.	Fat, 17 per cent. Passed.
60015.	Frey & Hedges, Leavenworth.	Fat, 12.2 per cent. Illegal.
70396.	Tasseys, Independence.	Fat, 10 per cent. Illegal.
70937.	Don Waggoner, Independence.	Fat, 13.8 per cent. Illegal.
Gelatin or gum.		

70398. Wagner & Son, Independence. Fat, 13.4 per cent. Illegal. Gelatin or gum.
70399. Padler & Aburshon, Independence. Fat, 15 per cent. Passed. Slight gelatin or gum.
70400. Sanitary Ice Cream Co., Independence. Fat, 14 per cent. Passed. Slight gelatin or gum.
70401. Sanitary Ice Cream Co., Independence. Fat, 14 per cent. Passed. Slight gelatin or gum.
70402. Sanitary Ice Cream Co., Independence. Fat, 12.2 per cent. Illegal. Gelatin or gum.
70403. J. M. Burns, Independence. Fat, 12.4 per cent. Illegal.
70404. D. Mpelesiotis, Independence. Fat, 15.1 per cent. Passed. Slight gelatin or gum.
70405. D. Mpelesiotis, Independence. Fat, 15 per cent. Passed. Slight gelatin or gum.
70406. D. Mpelesiotis, Independence. Fat, 15.6 per cent. Passed. Slight gelatin or gum.
70409. Miller & Tassey, Independence. Fat, 15.2 per cent. Passed. Slight gelatin or gum.
80408. Dockum-Tilford Drug Co., Wichita. Fat, 13.6 per cent. Not quite standard. Gelatin or gum.
80409. Buchanan, Wichita. Fat, 14.4 per cent. Passed. Gelatin or gum.
80410. Steffens-Bretch, Wichita. Fat, 14.8 per cent. Passed. Slight gelatin or gum.
80411. John Aden, Wichita. Fat, 13.9 per cent. Not quite standard. Gelatin or gum.
80412. Manlos Bros., Wichita. Fat, 13.8 per cent. Not quite standard. Gelatin or gum.
80413. J. W. Cookson Drug Co., Wichita. Fat, 17.2 per cent. Passed. Gelatin or gum.
80414. Dockum Drug Co., Wichita. Fat, 13.8 per cent. Not quite standard. Gelatin or gum.
90415. Steffens-Bretch, Wichita. Fat, 15 per cent. Passed. Gelatin or gum.
90585. W. H. Ringer, Paola. Fat, 15 per cent. Passed.
90586. H. T. Clifton, Paola. Fat, 13.8 per cent. Passed.
90587. Bosworth & Higley, Paola. Fat, 14.6 per cent. Passed.
90588. H. Bogardus, Osawatomie. Fat, 14 per cent. Passed.
90589. R. L. Howard, Osawatomie. Fat, 14.4 per cent. Passed.
90590. H. H. Reed, Osawatomie. Fat, 12.6 per cent. Passed. Strawberry.
90593. C. Sory, Garnett. Fat, 12.2 per cent. Passed.
90594. Welsh Bros., Garnett. Fat, 14.6 per cent. Passed.
90595. Welsh Bros., Garnett. Fat, 12 per cent. Passed. Strawberry.
90596. A. M. Graves, Garnett. Fat, 12 per cent. Passed.
90597. I. R. Sargent, Garnett. Fat, 19.4 per cent. Passed.
90606. Wm. Green & Son, Topeka. Fat, 15.2. Passed. Gelatin or gum.
90607. Matt. Weightman, Topeka. Fat, 14.6 per cent. Passed. Gelatin or gum.
90608. C. W. Kohl, Topeka. Fat, 17.4 per cent. Passed. Gelatin or gum.
90609. F. L. Heyden, Topeka. Fat, 16.6 per cent. Passed.
90610. Capital City Candy Co., Topeka. Fat, 19.6 per cent. Passed.
90611. S. S. Kresge Co., Topeka. Fat, 15.9 per cent. Passed. Gelatin or gum.
90612. G. Reklites, Topeka. Fat, 15.2 per cent. Passed. Gelatin or gum.

90613. Charowhas Bros., Topeka. Fat, 13.8 per cent. Passed. Gelatin or gum.
 90614. R. R. Shoaf, Topeka. Fat, 16 per cent. Passed. Gelatin or gum.
 90722. J. J. Grier Hotel Co., McFarland. Fat, 6.4 per cent. Illegal.
 100008. Baughman Bros., Topeka. Fat, 16 per cent. Passed.
 100009. Baughman Bros., Topeka. Fat, 15.1 per cent. Passed.
 20933. W. H. Ziesen, Eudora. Fat, 14.6 per cent. Passed. Vanilla.
 20934. W. H. Ziesen, Eudora. Fat, 12 per cent. Passed. Strawberry.
 20935. J. M. Tarleton, Eudora. Fat, 14.2 per cent. Passed. Vanilla.
 20936. J. M. Tarleton, Eudora. Fat, 14 per cent. Passed. Lemon.

CODFISH.

<i>Insp. No.</i>	<i>Manufacturer.</i>	<i>Brand.</i>	<i>Remarks.</i>
90472.	J. W. Beardsley's Sons,	New York.	Beardsley's Jewel. Passed.
70343.	Packed for Kansas City Salt Fish Co.,	Kansas City, Mo.	Royal Georges Fish. Passed.

FRESH OYSTERS.

6887. Booth Fish & Oyster Co., Kansas City, Mo. Passed.
 6888. Carr-Heckert, Kansas City, Mo. Passed.
 6890. William Foster, New York, N. Y. Passed.
 60104. William Huyser, Baltimore, Md. Passed.
 60105. William Huyser, Baltimore, Md. Passed.

SALMON.

90087. Jobber, Ridenour-Baker Groc. Co., Kansas City, Mo. Cotton Patch. Passed.
 90177. Jobber, Ridenour-Baker Groc. Co., Kansas City, Mo. Cotton Patch. Passed.
 90247. Jobber, Watson-Durand Casper Groc. Co., Salina, Kan. Royal W. Passed.
 90248. Jobber, Watson-Durand Casper Groc. Co., Salina, Kan., Rob Roy. Illegal.
 90249. Jobber, Kansas City Wholesale Groc. Co., Kansas City, Mo., Congress. Passed.
 90250. Jobber, Theo. Poehler Merc. Co., Lawrence, Kan. Kaw Chief. Passed.
 90251. Jobber, Theo. Poehler Merc. Co., Lawrence, Kan. Sunburst. Passed.

SARDINES.

60078. North Lubec Canning Co., Me. Eagle. Passed.
 60084. R. Hankenney, Lubec, Me. Cabacock. Passed.
 90328. (Jobber) Central Merc. Co., Hutchinson, Kan. Conquerer. Passed.
 90617. Globe Canning Co., North Lubec, Me. Glanco. Cans not in good condition; should have more samples before passing as to class.
 90618. Sea Coast Canning Co., Eastport, Me. Bull Dog. Cans not in good condition; should have more samples before passing as to class.
 90619. Sea Coast Canning Co., Eastport, Me. Conquerer. Cans not in good condition; should have more samples before passing as to class.
 90620. Lubec Sardine Co., Lubec, Me. Star. Cans not in good condition; should have more samples before passing as to class.
 90639. Sea Coast Canning Co., Eastport, Me. Big Smoke. Illegal. Because of excess of tin.
 90640. Sea Coast Canning Co., Eastport, Me. Conquerer. Illegal. Because of excess of tin.

SARDINES IN OIL.

90683. Lubec Sardine Co., Lubec, Me. Flagg. Illegal. Because of excess of tin.
 90684. North Lubec Mfg. & Canning Co., North Lubec, Me. Eagle. Illegal. Because of excess of tin.
 90694. Blanchard Mfg. & Canning Co., Eastport, Me. Palm. Passed.
 90697. (Jobber) Ridenour-Baker Groc. Co., Kansas City, Mo. Beauty. Passed.
 90698. (Jobber) Ridenour-Baker Groc. Co., Kansas City, Mo. Iceberg. Passed.
 90699. Blanchard Mfg. & Canning Co., Eastport, Me. Palm. Passed.
 90706. Blanchard Mfg. & Canning Co., Eastport, Me. Damon. Passed.
 90736. Lubec Sardine Co., Lubec, Me. Togo. Passed.
 90745. Holmes Packing Co., Eastport, Me. Holmes. Passed.
 90748. Sea Coast Canning Co., Lubec, Me. Sea Lion. Passed.
 90749. Edward Russell & Co., Boston, Mass. Gold Label. Passed.

MUSTARD SARDINES.

90734. Globe Canning Co., North Lubec, Me. Glanco. Passed.
 90735. Mawhaney & Ramsdell, Lubec, Me. Stag. Passed.

CIDER VINEGAR.

- | <i>Insp. No.</i> | <i>Manufacturer or Jobber.</i> | <i>Brand.</i> | <i>Remarks.</i> |
|------------------|--|---------------------|-----------------|
| 90094½ | Ridenour-Baker Grocery Co., Kansas City, Mo. | Punch Pure Cider. | Passed. |
| 90104. | Monarch Vinegar Works, Kansas City, Mo. | Senator. | Passed. |
| 90106. | Monarch Vinegar Works, Kansas City, Mo. | Pure Cider Vinegar. | Passed. |
| 90108. | Dalpini & Co., St. Louis, Mo. | Fermented Vinegar. | Passed. |

PICKLES, CONDIMENTS, ETC.

- | <i>Insp. No.</i> | <i>Manufacturer.</i> | <i>Brand.</i> | <i>Remarks.</i> |
|------------------|---|---|--------------------------------------|
| 90138. | The Williams Bros. of Detroit. | Eclipse Sour Pickles. | Illegal. Contains alum and turmeric. |
| 90139. | The Williams Bros. of Detroit. | Eclipse Sweet Pickles. | Illegal. Contains alum and turmeric. |
| 90257. | Squire Dingee, Chicago. | Magic City. | Illegal. Contains alum and turmeric. |
| 90266. | Kansas City Wholesale Groc. Co., Kansas City, Mo. | Pickwick. | Illegal. Contains alum and turmeric. |
| 90411. | Libby, McNeill & Libby, Chicago. | Libby's Gherkins. | Passed. |
| 90412. | Packed for McCord-Kistler Merc. Co., Topeka. | Jay Hawk Sweet Relish. | Illegal. Contains turmeric. |
| 90413. | Packed for McCord-Kistler Merc. Co., Topeka. | Jay Hawk Sweet Pickles. | Illegal. Contains turmeric. |
| 90414. | Packed for McCord-Kistler Merc. Co., Topeka. | Jay Hawk Sour Pickles. | Illegal. Contains turmeric. |
| 90429. | The Williams Bros. of Detroit. | Williams Tenpenny Sour Spiced Gherkins. | Illegal. Contains alum and turmeric. |
| 90444. | The Williams Bros. of Detroit. | Williams Pearl Onions. | Passed. |
| 90445. | The Williams Bros. of Detroit. | Williams Sour Relish. | Illegal. Contains turmeric. |
| 90446. | Libby, McNeill & Libby, Chicago. | Libby's Sweet Pickles. | Passed. |
| 90447. | The Williams Bros. of Detroit. | Williams Sweet Gherkins. | Illegal. Contains alum and turmeric. |
| 90448. | Libby, McNeill & Libby, Chicago. | Maple Brand Sweet Gherkins. | Passed. |
| 90449. | The Williams Bros. of Detroit. | Williams Tenpenny Sour Spiced Ghergins. | Illegal. Contains alum and turmeric. |
| 90511. | Cruikshank Bros. Co., Pittsburg, Pa. | Cruikshank's Sour | |

Pickles. Passed.

90514. Wm. Henning Co., Chicago. Deerfield Sour Pickles. Passed.

90107. Thomson Taylor Spice Co., Chicago. Glick Mustard (ground.)
Illegal. Contains charlock.

90193. H. J. Heinz Co., Pittsburg, Pa. Heinz Prepared Mustard.
Passed.

90098. C. W. Skinner, Pittsburg, Kan., Horse Radish. Passed.

CATSUP.

<i>Insp. No.</i>	<i>Manufacturer.</i>	<i>Brand.</i>	<i>Remarks.</i>
6908.	Frazier Packing Co., Elwood, Ind.	Frazier's.	Passed.
6909.	For Bittman-Todd Grocer Co., Leavenworth, Kan.	Orchid.	Passed.
90488.	Williams Bros. of Detroit.	Waldorf.	Passed.
7000.	Brooks Tomato Products Co., Collinsville, Ill.	Seminole.	Passed.
90520.	Harbauer Co., Toledo, Ohio.	Harbauer.	Illegal. Short weight; passed as to composition.
90525.	Harbauer Co., Toledo, Ohio.	Harbauer.	Illegal. Short weight; passed as to composition.
90527.	C. A. Schnabel, Jr., Indianapolis, Ind. (Dist.)		Passed.
90256.	Poehler Mercantile Co., Lawrence, Kan.	Sunburst.	Passed.
90569.	Harbauer Co., Toledo, Ohio. (Four bottles.)	Harbauer.	Illegal. Short weight; passed as to composition.
90570.	Van Camp Packing Co., Indianapolis, Ind.	Van Camp's.	Passed.
90582.	Harbauer Co., Toledo, Ohio. (Four bottles.)	Harbauer.	Passed.
90615.	Harbauer Co., Toledo, Ohio. (Four bottles.)	Harbauer.	Passed.
60079.	The T. A. Snider Preserve Co., Chicago.	Snider's.	Passed.
60080.	The Van Camp Packing Co., Indianapolis, Ind.	Van Camp's.	Passed.
60081.	Beech-nut Packing Co., Canajoharie, N. Y.	Beech-nut.	Passed.
60082.	Ridenour-Baker Grocery Co., Kansas City, Mo. (Dist.)	F. F. O. G.	Passed.
60083.	Watson, Durand-Kasper Grocery Co., Salina, Kan.	Monogram.	Passed.
90685.	Lehmann, Higginson Grocery Co., Wichita, Kan.	Le-Hi.	Passed.
90701.	H. J. Heinz Co., Pittsburg, Pa.	Heinz.	Passed.
90702.	Reid, Murdoch & Co., Chicago.	Monarch.	Passed.
90707.	W. M. Hoyt Co., Chicago (distributors).	Mallard.	Passed.
90712.	The T. A. Snider Preserve Co., Chicago.	Snider's.	Passed.
90732.	Wm. W. Vaughan Co., Detroit, Mich.	Tourist.	Passed.
90740.	Williams Bros., Detroit.	Waldorf.	Passed.
90744.	Whiteland Canning Co., Whiteland, Ind.	Grafton Johnson's.	Passed.
70222.	Libby, McNeill & Libby, Chicago.	Libby's.	Passed.
70223.	The H. D. Lee Mercantile Co., Salina, Kan.	Lee.	Passed.
70229.	Grafton Johnson, Whiteland, Ind.	Fame.	Passed.
70435.	Franklin McVeagh & Co., Chicago (dist.).	Club House.	Passed.
70440.	The Burt Olney Canning Co., Oneida, N. Y.	Burt Olney's.	Passed.
70441.	Forbes Bros. Tea & Spice Co., St. Louis.	Forbes' Crown.	Passed.
70445.	Libby, McNeill & Libby, Chicago.	Libby's.	Passed.
70446.	The Cudahy Packing Co. (distributors).	Rex.	Passed.
70448.	Harbauer Co., Toledo, Ohio.	Harbauer.	Passed.
70449.	Curtice Brothers Co., Rochester, N. Y.	Blue Label.	Passed.
90723.	Otto Kuehne Preserving Co., Topeka, Kan.	Home Made Style.	Passed.

90724. Otto Kuehne Preserving Co., Topeka, Kan. Home Made Style. Passed.
 90725. Otto Kuehne Preserving Co., Topeka, Kan. Home Made Style. Passed.
 90726. Otto Kuehne Preserving Co., Topeka, Kan. Silver Leaf. Passed.
 90727. Otto Kuehne Preserving Co., Topeka., Kan. Silver Leaf. Passed.
 90752. Otto Kuehne Preserving Co., Topeka, Kan. Home Made Style. Passed.
 70453. Puritan Food Products Co., Fredonia, N. Y. Red Wing. Passed.
 90767. For Hendee's Dept. Store, Osage City, Kan. Foot Hills. Passed.
 90768. Zeigler Canning & Preserving Co., Muscatine, Iowa. Zeigler's. Passed.
 90770. Wellington Canning Co., Wellington, Mo. Red Star. Passed.

PEANUT BUTTER.

<i>Insp. No.</i>	<i>Manufacturer.</i>	<i>Brand.</i>	<i>Remarks.</i>
90497.	Beech-nut Packing Co., Canajoharie, N. Y.	Beech-nut.	Passed.
90498.	Beech-nut Packing Co., Canajoharie, N. Y.	Beech-nut.	Passed.
90499.	Franklin MacVeagh & Co., Chicago, Ill.	Club House.	Passed.
90500.	H. J. Heinz Co., Pittsburg, Pa.	Heinz.	Passed.
90501.	Letts, Spencer Grocer Co., St. Joseph, Mo.	Defiance.	Passed.
90502.	C. W. Jackson & Sons, Indianapolis, Ind.	Puritana.	Passed.
90503.	Franklin, MacVeagh & Co., Chicago, Ill.	Telmo.	Passed.
90504.	The Beech-nut Packing Co., Canajoharie, N. Y.	Beech-nut.	Passed.
90505.	Royal Peanut Co., Cleveland, Ohio.	Royal.	Passed.
90510.	Russell-Duncan Jobber's Mills, Oklahoma City, Okla.	Rusdun.	Passed.
90515.	The H. D. Lee Mercantile Co., Salina, Kan.	Lee.	Passed.
90519.	E. K. Pond Packing Co., Chicago, Ill.	Derby.	Passed.
90251.	Geo. A. Bayle, St. Louis, Mo.	Purity Pledge.	Passed.
90522.	The Symns Grocer Co., Atchison, Kan.	Symns.	Passed.
90524.	Larkin Company, Buffalo, N. Y.	Larkin.	Illegal. Short weight; passed as to composition.
90528.	Kansas City Wholesale Grocery Co., Kansas City.	Pickwick.	Passed.
90529.	The Theo. Poehler Mercantile Co., Lawrence, Kan.	Sunburst.	Passed.
90530.	Bittmann-Todd Grocer Co., Leavenworth, Kan.	Orchid.	Passed.
90531.	Inter City Grocer Co., Kansas City, Mo.	Home Folk.	Passed.
90532.	MacLaren Imperial Cheese Co., Detroit, Mich.	MacLaren's Imperial.	Passed.
90535.	Ridenour-Baker Grocery Co., Kansas City, Mo.	Punch.	Passed.
90537.	Reid, Murdoch & Co., Chicago.	Monarch.	Passed.

DATENUT BUTTER.

90506. Ridenour-Baker Grocery Co., Kansas City, Mo. Passed.

FRUIT BUTTER—APPLE.

<i>Insp. No.</i>	<i>Manufacturer.</i>	<i>Brand.</i>	<i>Remarks.</i>
90637.	National Preserve Co., St. Louis, Mo.	Village Green.	Passed as to composition; illegal as to weight.
90638.	H. J. Heinz Co., Pittsburg, Pa.	Heinz.	Passed.
90641.	Corn Products Refining Co., New York.	Marmo.	Passed.
90642.	Ridenour-Baker Grocery Co., Kansas City, Mo.	F. F. O. G.	Passed.

90643. Louisville Preserving Co., Louisville, Ky. L. P. C. Passed.
 90644. The Wichita Vinegar Works, Wichita, Kan. Prairie King. Passed.
 90646. Round Crest Canning Co., Canon City, Colo. Green Hill. Passed.
 90647. The Goodwin Preserving Co., Louisville, Ky. Goodwin's Best. Passed.
 90655. The Castleman-Blakemore Co., Louisville, Ky. Blue Grass Belle. Passed.
 90064. Watson, Durand, Kasper Grocery Co., Salina, Kan. Royal "W." Passed.
 60070. Franklin MacVeagh & Co., Chicago. Priscilla. Passed.
 60072. Best-Clymer Mfg. Co., St. Louis, Mo. Inspector. Passed.
 60075. Reid, Murdoch & Co., Chicago. Bismarck. Passed.

FRUIT BUTTER—PEACH.

- 90479½. The Davis Mercantile Co., Topeka, Kan. Victorex. Illegal. Large excess of tin, bacteria and yeasts; made from "swells."
 60076. Reid, Murdoch & Co., Chicago. Richelieu. Passed.

Kansas Food Standards Stand Test of Supreme Court.

A recent decision of the Kansas supreme court is of vital interest to the State Board of Health and to every consumer of foods and drugs in the state, which naturally includes all the citizens of the state.

The point at issue was whether or not the State Board of Health was authorized by the legislature to make standards of purity, quality and strength for foods, and if it had the right to enforce the regulations under which such standards were made and promulgated. The opinion of the court, which follows, will strengthen the hands of the officials charged with the enforcement of the Kansas food and drugs law, and as a precedent will strengthen the hands of food officials the country over. *Long live the court!*

THE STATE OF KANSAS, *Appellant*, v. FREDERICH H. MEYER, doing business under the firm name and style of The Meyer Sanitary Milk Company, *Appellee*.

Appeal from Wyandotte district court, division No. 2. Reversed.

SYLLABUS BY THE COURT.

PURE-FOOD LAW—Sale of Impure Milk—Information States a Public Offense Under the Statute. The State Board of Health having made a rule and regulation fixing the standard for milk kept and offered for sale and sold to others, to the effect that milk shall contain not less than 3.25 per cent of milk fat nor less than 8.5 per cent of solids not fat, an information which charged that at a certain time the defendant kept and offered for sale and sold milk which contained less than the standard prescribed by the state board, in violation of the rules and regulations of the State Board of Health and of the statutes, states an offense under section 3 of the drugs and foods act, being section 3077 of the General Statutes of 1909.

The opinion of the court was delivered by

JOHNSTON, C. J.: On September 22, 1913, an amended information was filed in the district court of Wyandotte county charging that:

"Frederich H. Meyer, doing business under the firm, name and style of The Meyer Sanitary Milk Company, at said county of Wyandotte, state of Kansas, within the jurisdiction of this court, on or about the 25th day of June, 1913, being then and there engaged in the delivery and sale of milk, did unlawfully and wilfully keep for sale, offer for sale, sell, or cause to be sold, a quantity of milk, the exact amount of which is unknown, to one J. A. Bukaty, which milk was then and there adulterated in this, to-wit: that said milk contained less than 3.25 per cent of milk fat and less than 8.5 per cent of solids not fat, in violation of the rules and regulations of the Kansas State Board of Health, and contrary to the statute in such case made and provided."

Meyer moved to quash the information on the ground that it failed to state a public offense, and the motion being sustained, the state appeals.

The prosecution evidently undertook to charge a violation of the drugs and foods act, and the question presented here is, Does the information state an offense under the provisions of that act? In Section 3 of chapter 266 of the Laws of 1907, as amended by section 1 of chapter 184 of the Laws of 1909, it is provided:

"That the State Board of Health is authorized and directed to make and publish uniform rules and regulations, not in conflict with the laws of this state, for carrying out the provisions of this act, which rules and regulations shall be published in the official state paper, which rules and regulations among others, shall provide for the collection and examination of specimens of foods and drugs manufactured, kept for sale, offered for sale or sold in the state of Kansas; and said Board of Health is further authorized and empowered to make, define, adopt and publish standards of quality, purity and strength for foods and drugs. Any person who shall violate any of the rules and regulations so made and published in the official state paper shall be deemed guilty of a misdemeanor, and on conviction shall be punished by a fine not exceeding fifty dollars or imprisonment in the county jail not more than six months, or both, in the discretion of the court." (Gen. Stat. 1909, Sec. 3077.)

One of the regulations adopted by the State Board of Health, under the authority conferred by the legislature, is that:

"When any article of food, liquor, drug or drink falls below the standards of purity, quality or strength which have been adopted by the United States Department of Agriculture or the Kansas State Board of Health, it shall be regarded as misbranded or adulterated within the meaning of the Kansas food and drugs law." (Kansas State Board of Health regulation No. 30.)

The board also adopted regulation No. 35, subdivision B of which provides:

"Milk is the fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained fifteen days before and five days after calving, and contains not less than eight and one-half (8.5) per cent of solids not fat, and not less than three and one-quarter (3.25) per cent of milk fat, and contains no preservative, added water, or other foreign substance."

This provision, it will be observed, is quite similar to the definition of milk prescribed by the legislature in the act providing for the appointment of a dairy commissioner and for the supervision of dairies, and butter, cheese and ice-cream factories. (Gen. Stat. 1909, sec. 8747.) No question is raised as to the power of the legislature to authorize the State Board of Health to adopt and publish standards as to the quality, purity and strength of foods and to make rules and regulations for carrying out this and other provisions of the act. It is not contended that there is a lack of power in the legislature to prescribe penalties for the violation of such regulations as the Board is authorized by the legislature to make. There is no contention that the Board has authority to create an offense or to exercise legislative power by making the violation of one of its regulations a public offense. The question here is, Does the information charge that the defendant has done that which the legislature has declared to be an offense and for which it has prescribed a penalty? It is contended that the information is defective in that it fails to specify the manner in which the milk has been adulterated by the defendant, and it is insisted that to state an offense it must charge the doing of one or more of the specific acts prescribed in the section defining adulteration. (Gen. Stat. 1909, sec. 3081.) The act, as will be observed, contains many provisions, and makes the violation of each of a number of them a misdemeanor for which a penalty is prescribed. Among them it makes the manufacture of foods or drugs that are adulterated or misbranded or which contain any deleterious substance an offense. It also provides that one who sells, keeps or offers for sale any adulterated or misbranded food, drug or liquor shall be guilty of a misdemeanor. In section 3081 of the General Statutes of 1909, to which reference has been made, it is provided, in effect, that foods shall be deemed to be adulterated if any substance has been added to or subtracted from them, or shall be mixed with or substituted for them, or where there is any treatment of foods which would conceal damage or inferiority, or if it consist of a filthy, decomposed, tainted or putrid animal or vegetable substance, or any portion of an animal unfit for food, or if it is the product of a diseased animal or one which died otherwise than by slaughter. The next section defines the term "misbranding" as applied to articles of foods and drugs. In a prosecution for the violation of the provisions which prohibit and punish adulteration an allegation of the means of adulteration employed by the defendant would be necessary, but this prosecution, as we have seen, is not brought under any of those provisions, but is brought on the one which provides that the State Board of Health shall make rules and regulations fixing standards for foods and drugs, and which makes the violation of such rules and regulations a misdemeanor. It is true that the word "adulterated" is used in one part of the information, but it is a superfluous term, and was only used to characterize the milk which it is alleged was not up to the standard fixed by the State Board of Health. The specific charge made against the defendant is that he kept, offered for sale and sold milk in violation of the rule and regulation made by the State Board of Health fixing the standard for milk. It has been suggested that the section in question falls short of making the keeping

and offering for sale and the selling of foods which are below the standard an offense; that the fixing and publishing of standards is not a rule or regulation, and that only a violation of the rules and regulations is declared to be an offense. Although the section is somewhat awkwardly phrased, there can be little doubt of the legislative purpose in enacting it. It first confers general authority on the Board to make rules and regulations, and these are required to be published in the official state paper. It is then enacted that, among others, the rules and regulations shall provide for two things: first, the collection and examination of specimens of foods and drugs; and second, the Board is authorized and empowered to make, define, adopt and publish standards of quality, purity and strength of foods and drugs. There is a semicolon at the end of the clause relating to the collection and examination of specimens, but the succeeding clause is a continuation of the subject, and is but the enumeration of another regulation that the Board is authorized to make. It is the same as if it had been said that in making rules and regulations the Board, among other things, shall provide for the collection and examination of specimens of foods and drugs, and shall make, define, adopt and publish standards of quality, purity and strength of foods and drugs. The action of the Board in fixing and publishing a standard is the making of a rule and regulation for the violation of which a penalty is prescribed. The information does not, of course, state that the milk has been adulterated by adding something to it or substituting something for it, but briefly alleges that the milk which the defendant kept and sold contained less than a certain per cent of milk fat and less than a certain per cent of solids not fat, and this, as we have seen, is a violation of the adopted and published rule made by the State Board of Health.

The order of the district court sustaining the motion to quash will, therefore, be reversed and the cause remanded for further proceedings.

BURCH, J., MARSHALL, J., and DAWSON, J., concurring; MASON, J., concurring specially.

The School for Physicians and Health Officers.

The fifth annual school for physicians and health officers will be held during the two weeks beginning April 19, to and including May 1, 1915. The first week will be held at the University at Lawrence, and will constitute, in effect, a postgraduate course for physicians in the fundamentals of the medical sciences. The instruction will be given by the members of the faculty of the School of Medicine of the University. The second week will be held at the Bell Memorial Hospital, at Rosedale, Kan., being the clinical department of the School of Medicine of the University of Kansas. The forenoons of each day of the second week will be devoted to clinics, given by members of the staff of the hospital, and the afternoons will

be devoted distinctively to public health work under the auspices of the faculty of the School of Medicine and the State Board of Health, in conjunction with three distinguished sanitarians secured from other states.

The program which follows indicates that a rich treat is in store for the physicians and health officers of the state who will take the time to attend.

The two weeks' instruction is absolutely free of cost to any physician in the state.

It is requested that those who expect to attend any part or all of the session indicate that fact to the secretary of the State Board of Health.

OUTLINE OF FIRST WEEK'S LECTURES AND DEMONSTRATIONS, AT LAWRENCE.

The following program has been arranged with a view of bringing before physicians in general some of the latest scientific achievements and theories in the medical laboratory sciences and closely related sciences.

Arrangements may be made by those enrolled for particular demonstrations in which they may be interested.

The University library, as well as the apparatus and equipment of the Medical School, will be at the disposal of all in attendance.

For the hour and place of lectures see appended schedule.

1. PROFESSOR BAILEY will deliver two lectures on foods and their adulterations. The latest concepts regarding food values will be considered.

2. PROFESSOR SAYRE will deliver three lectures on the following topics:

I. Illustrated lecture on bacteriological products, discussing their manufacture on a large scale, giving interior views of the various laboratories producing serums and bacteriological products.

II. Review of the synthetical products relating to antipyretics and antiseptics.

III. Discussion of synthetic hypnotics and analgesics.

3. PROFESSOR NAISMITH will deliver one lecture on the physiology of rest and exercise, in which the latest concepts of the values of rest and exercise will be considered.

4. PROFESSOR CHAMBERS:

I. Blood Pressure.—The value of the sphygmomanometer and the importance of the blood-pressure test will be considered and demonstrated.

II. Heat Regulation.—Those factors concerned in heat production and regulation will be considered in the light of recent developments along this line.

5. PROFESSOR SUNDWALL. Carefully prepared dissections will be demonstrated of the following:

I. Anatomical structure of the inguinal canal, peritoneum and pelvis.
II. Anatomical structure of the thoracic viscera. In these dissections excellent opportunities are offered for reviews of those structures which generally concern physicians in practice. Special dissections will be prepared of any structures in which physicians may be interested. Those desiring particular demonstrations will confer a favor by making such requests in writing at least two weeks before the opening session.

III. Special microscopic demonstrations of gland structures. By selective microchemical staining the various antecedent substances of secretions will be demonstrated. Zymogen granules, mitochondria, chromaffin cells, etc., will be considered.

6. PROFESSOR MATTHEWS. In these demonstrations, the action of the below-named vegetable and animal preparations will be shown on dogs. The necessary apparatus will be fitted up to record these actions. In view of the importance these drugs hold in modern therapeutics, the demonstrations should prove to be of great value. Professor Matthews will be glad to make any special demonstration, providing there is a demand for such and sufficient notice is given him.

- I. Action of digitalis and strophanthin on the mammalian heart.
- II. Action of epinephrin on the mammalian heart.
- III. Action of petuitrin on the heart and kidneys.

7. PROFESSOR ALLEN will deliver two lectures on some of the animal parasites found in man. These will be accompanied by special demonstrations, preparations and lantern slides.

- I. Recent work in worm parasites of man.
- II. Recent work in protozoan parasites of man.

8. PROFESSOR DAINS will deliver two lectures:

I. History of urine analysis. This lecture will be illustrated with lantern slides. The historical development of this important phase of diagnosis will be considered.

II. Organic metallic compounds used in medicine. The chemical structure of such compounds as salvarsan and other important metallic compounds will be considered.

9. PROFESSOR COGHILL will deliver three lectures on those phases of the nervous system that occupy much of the discussion of medicine to-day.

I. Research interpretation of shock. A physiological and biological consideration of Crile's theory of Anoci association and a discussion of data upon which this theory has been founded.

II. Autonomic nervous system. A review of the anatomical features of the system and comparison of its functional characteristics with reflexes of ordinary type.

II. Nerve synapse. A consideration of the physiological evidence of the anatomical relation between successive neurones in a conduction path, and the relation of a synapse to the function of the nervous system as a whole.

**SCHEDULE OF COURSES FOR PHYSICIANS AND HEALTH OFFICERS' WEEK, AT LAWRENCE,
APRIL 19 TO 23, 1915.**

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
8:30	Worm Parasites. <i>Prof. Allen.</i> Snow Hall.	Protozoan Parasites. <i>Prof. Allen.</i> Snow Hall.	Anatomy. Special Dissections. <i>Prof. Sundvall.</i> Museum Building.	Anatomy. Special Dissections. <i>Prof. Sundvall.</i> Museum Building.	Anatomy. Special Microscopic Demonstrations. <i>Prof. Sundvall.</i> Museum Building.
10:30	Urine Analysis. Historical Development. <i>Prof. Davis.</i> Chemistry Building.	Organic Metallic Compounds in Medicine. <i>Prof. Davis.</i> Chemistry Building.			
11:30	Quality and Quantity. Examination of Urine. <i>Prof. Nelson.</i> Chemistry Building.	Nutrition of Man. <i>Prof. Nelson.</i> Chemistry Building.	Bacteriological Products. <i>Prof. Sayre.</i> Chemistry Building.	Antipyretics. Antiseptics. <i>Prof. Sayre.</i> Chemistry Building.	Hypnotics. Analgesics. <i>Prof. Sayre.</i> Chemistry Building.
1:30	Research interpretation of shock. <i>Prof. Coghill.</i> Museum.	Autonomic Nervous System. <i>Prof. Coghill.</i> Museum.	Blood Pressure. <i>Prof. Chambers.</i> Museum.	Nerve Synapses. <i>Prof. Coghill.</i> Museum.	Heat Regulation. <i>Prof. Chambers.</i> Museum.
2:30	Physiology. Demonstration on Mammals, Digitalis and Strophanthin. <i>Prof. Matthews.</i> Snow Hall.	Physiology. Demonstrations on Mammals, Epinephrin. <i>Prof. Matthews.</i> Snow Hall.	Physiology. Demonstrations on Mammals. Petuitrin. <i>Prof. Matthews.</i> Snow Hall.	Foods. <i>Prof. Bailey.</i> Chemistry Building.	Foods. <i>Prof. Bailey.</i> Chemistry Building.
3:30				Sewage and Sewage Disposal. <i>Prof. Haskins.</i> Museum.	Inter. Water Analysis. <i>Prof. Young.</i> Museum.
4:30	Physiology of Rest and Exercise. <i>Prof. Naimith.</i> Gymnasium.				

**SCHEDULE OF COURSES FOR PHYSICIANS AND HEALTH OFFICERS, APRIL 19, TO MAY 1, 1915—
WEEK AT ROSEDALE.**

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8:00 a. m.	Registration. <i>Welch.</i>	Cancer of Uterus. <i>Gaffey.</i>	Dietetics in Typhoid. <i>Walf.</i>	Interpretation of the X-ray. <i>McDermott.</i>	Uremia and Hyper- trophy of Prostate. <i>Sedler.</i>	The Treatment of Cancer. <i>Richard Sedler.</i>
10 to 12. College.	Bone Surgery. <i>Sedler.</i> Pathology. <i>Major.</i>	Diseases Nervous System. <i>Stoop.</i> Pathology. <i>Major.</i>	Obstetrical Surgery. <i>Gaffey.</i> Treatment Syphilis. <i>Mina.</i>	Treatment Nephritis. <i>Mina.</i> Pathology. <i>Major.</i>	Glaucosma in its Relation to Public Health. <i>Curran.</i>	X-ray. <i>McDermott.</i> Surgical Bacteriology. <i>Orr.</i>
10 to 12. Hospital.	Medical Clinic. <i>Mina.</i> Ophthalmological Clinic. <i>Curran.</i>	Surgical Clinic. <i>Sedler and Orr.</i> Pediatrics Clinic. <i>Hunt.</i>	Nose and Throat Clinic. <i>Sedler.</i> Neurological Clinic. <i>Stoop.</i>	Surgical Clinic. <i>Sedler and Orr.</i>	Clinic in Gynecology and Obstetrics. <i>Gaffey.</i> Clinic in Medicine. <i>Mina.</i>	Announcements later of Clinic in Hospital.
1:30 p. m.	Population and Births. <i>Fulton.</i>	Use of Morbidity and Laboratory Reports. <i>Chesley.</i>	Malaria. <i>White.</i>	Sex Hygiene and Eugenics. <i>Fulton.</i>		Poliomyelitis. <i>White.</i>
2:30	State Public Health Service. <i>Chesley.</i>	Inverse Ratio of Typhoid Fever to Population. <i>Fulton.</i>	Numerical Microscop- ies Concerning Infant Mortality. <i>Fulton.</i>	Typhoid Epidemiology. <i>Chesley.</i>	Early History of Arti- ficial Immunisations. <i>Fulton.</i>	Special Epidemiological Problems and Reports of Field Work. <i>Chesley.</i>
3:30	Pathology and Diagnosis Bubonic Plague. <i>White.</i>	Pathology and Diagnosis Pulmonary Tuberculosis. <i>White.</i>	Control and Prevention Diphtheria. <i>Chesley.</i>	Sanitary Disposal Human Excreta. <i>White.</i>	Modern Artificial Immunisation. <i>Trumble.</i>	An Antituberculous Campaign. <i>Fulton.</i>
4:30	Interpretation Morb. and Mort. Statistics. <i>Fulton.</i>	The Decline of Tuberculosis. <i>Fulton.</i>	The Sickness of Childhood. <i>Fulton.</i>	Infectiousness of Those Who Are Not Sick. <i>Fulton.</i>	Pellagra. <i>White.</i>	A Last Word. <i>Creambme.</i>
5:30		Round Table. <i>Creambme.</i>	The Public Health Nurse. <i>Neimanager.</i>	Round Table. <i>Creambme.</i>	Round Table. <i>Creambme.</i>	

10. PROFESSOR HASKINS will deliver one lecture on sewage and sewage disposal. The most recent method of treating sewage will be considered.

11. PROFESSOR NELSON will deliver two lectures:

I. The nutrition of man. (a) The fundamental factors involved. (b) The modern aspect of the problem of nutrition.

II. Some of the later developments in the qualitative and quantitative examination of urine. This lecture will immediately follow Professor Dain's consideration of the historical development of urine analysis.

12. PROFESSOR YOUNG will deliver one lecture on interpretation of water analysis. The value and interpretation of water examination will be considered in the light of recent development.

THE SECOND WEEK'S PROGRAM, TO BE GIVEN AT ROSEDALE.

Owing to the limited facilities available for showing patients, it is necessary to divide those attending the school into groups. Tickets will be issued for clinics at the office of the registrar every afternoon for the clinics of the following day. No tickets will be required for the lectures or demonstrations.

MONDAY, APRIL 26.

Morning Session.

AT COLLEGE.

8:30 to 9:30. Registration.

9:30. Welcome.—Dr. Crumbine.

10:00 to 11:00. Recent Advances in Bone Surgery.—Dr. Sudler.

11:00 to 12. Demonstration of Pathological Specimens.—Dr. Major.

AT HOSPITAL.

10:00 to 12:00. Medical Clinic.—Dr. Milne. (Number limited to 10.)

10:00 to 12:00. Ophthalmological Clinic.—Dr. Curran. (Number limited to 15.)

Afternoon Session.

1:30. Population and Births.—Dr. John S. Fulton, Secretary Maryland State Board of Health.

2:30. Organization of State Public Health Service.—Dr. A. J. Chesley, Director Division of Preventable Diseases, Minnesota State Board of Health.

3:30. Pathology and Diagnosis of Bubonic Plague.—Dr. Mark J. White, Surgeon U. S. Public Health Service.

4:30. The Interpretation of Morbidity and Mortality Statistics.—Dr. John S. Fulton, Secretary Maryland State Board of Health.

TUESDAY, APRIL 27.

Morning Session.

AT COLLEGE.

9:00 to 10:00. Cancer of the Uterus.—Dr. Guffey.

10:00 to 11:00. Rachiocentesis and Cerebrospinal Fluid in Diseases of the Nervous System.—Dr. Skoog.

11:00 to 12:00. Demonstration of Pathological Specimens.—Dr. Major.

AT HOSPITAL.

10:00 to 12:00. Surgical Clinic.—Drs. Sudler and Orr. (Number limited to 10.)

10:00 to 12:00. Pediatrics Clinic.—Dr. Hunt. (Number limited to 10.)

Afternoon Session.

- 1:30. Use of Morbidity and Laboratory Reports at Headquarters and in the Field.—Dr. A. J. Chesley.
- 2:30. The Inverse Ratio of Typhoid Fever to Population—Dr. John S. Fulton.
- 3:30. The Pathology and Diagnosis of Pulmonary Tuberculosis.—Dr. Mark J. White.
- 4:30. The Decline of Tuberculosis (Pearson).—Dr. John S. Fulton.
- 5:30. Round Table.—Dr. S. J. Crumbine, Secretary Kansas State Board of Health.

WEDNESDAY, APRIL 28.

Morning Session.

AT COLLEGE.

- 9:00 to 10:00. Dietetics in Typhoid.—Dr. Wolf.
- 10:00 to 11:00. Obstetrical Surgery.—Dr. Guffey.
- 11:00 to 12:00. The Present Position in the Treatment of Syphilis.—Dr. Milne.

AT HOSPITAL.

- 10:00 to 12:00 Nose and Throat Clinic.—Dr. Sawtell. (Number limited to 15.)
- 10:00 to 12:00. Neurological Clinic.—Dr. Skoog. (Number limited to 10.)

Afternoon Session.

- 1:30. Pathology Diagnosis and Prophylaxis of Malaria.—Dr. Mark J. White.
- 2:30. The Numerical Misconceptions Concerning Infant Mortality.—Dr. John S. Fulton.
- 3:30. Control and Prevention of Diphtheria.—Dr. A. J. Chesley.
- 4:30. The Sickness of Children.—Dr. John S. Fulton.
- 5:30. The The PPublic Health Nurse.—Miss Laura Neiswanger, R. N.

THURSDAY, APRIL 29.

Morning Session.

AT COLLEGE.

- 9:00 to 10:00. Interpretation of X-ray Plates.—Dr. McDermott.
- 10:00 to 11:00. The Treatment of Nephritis.— Dr. Milne.
- 11:00 to 12:00. Demonstration of Pathological Specimens.—Dr. Major.

AT HOSPITAL.

- 10:00 to 12:00. Surgical Clinic.—Drs. Sudler and Orr. (Number limited to 15.)

Afternoon Session.

- 1:30. Sex Hygiene and Eugenics.—Dr. John S. Fulton.
- 2:30.—Typhoid Eidemiology.—Dr. A. J. Chesley.
- 3:30 Sanitary Disposal of Human Excreta.—Dr. Mark J. White.
- 4:30. The Infectiousness of Those Who Are Not Sick.—Dr. John S. Fulton.
- 5:30. Round Table.—Dr. S. J. Crumbine.

FRIDAY, APRIL 30.

Morning Session.

AT COLLEGE.

- 9:00 to 10:00. Dr. Duke.
 10:00 to 11:00. Uremia and Hypertrophy of the Prostate.—Dr. Sudler.
 11:00 to 12:00. Dr. Curran. Glaucoma in its relation to public health.

AT HOSPITAL.

- 10:00 to 12:00. Clinic in Gynecology and Obstetrics.—Dr. Guffey. (Number limited to 15.)
 10:00 to 12:00. Clinic in Medicine.—Dr. Milne. (Number limited to 10.)

Afternoon Session.

- 1:30. Investigation and Management of Scarlet Fever and Measles.—Dr. A. J. Chesley.
 2:30. The Early History of Artificial Immunization.—Dr. John S. Fulton.
 3:30. Modern Artificial Immunization.—Dr. W. K. Trimble, Associate Professor of Clinical Microscopy and Pathology, School of Medicine, University of Kansas.
 4:30. Pathology, diagnosis and prophylaxis of pellagra. Dr. Mark J. White.
 5:30. Round Table.—Dr. S. J. Crumbine.

SATURDAY, MAY 1.

Morning Session.

AT COLLEGE.

- 9:00 to 10:00. The Treatment of Cancer.—Dr. Richard Sutton.
 10:00 to 11:00. The Therapeutic Application of the X-ray.—Dr. McDermott.
 11:00 to 12:00. Surgical Bacteriology.—Dr. Orr.

AT HOSPITAL.

(Announcements made later.)

Afternoon Session.

- 1:30. Pathology, diagnosis and prophylaxis of Poliomyelitis.—Dr. Mark J. White.
 2:30. Special Epidemiological Problems and the Reportings of Field Work.—Dr. A. J. Chesley.
 3:30. An Anti-Tuberculosis Program and Some of its Results.—Dr. John S. Fulton.

When you are feeling grouchy, let the sunshine in;
 When your face gets feelin' hard, crack it with a grin.
 Don't be afraid of wrinkles, tear loose with your mirth;
 An old face laughter-wrinkled is the sweetest thing on earth.

He that holds fast the golden mean,
 And lives contentedly between
 The little and the great,
 Feels not the wants that pinch the poor,
 Nor plagues that haunt the rich man's door,
 Embittering all his state.—*Unidentified.*

New Public Health Legislation.

The 1915 legislature passed several bills of more or less importance to the public health, the most important of which is that authorizing the creation of a division of child hygiene in the State Board of Health.

That health officers and others interested may become immediately familiar with the new public-health measures, they are herewith published for their information. In a subsequent number of the BULLETIN a detailed statement will be made concerning the organization and work of the new division of child hygiene.

Included in what might be properly denominated as "public health legislation" is the new false-advertising law, which speaks for itself. The hitherto fraudulent and deceptive statements concerning fake nostrums and appliances for the cure of malignant diseases and the blatant and misleading advertisements of quack doctors who prey upon the sick of the state should, under the terms of this law, be suppressed. Many of the communicable diseases are dependent for their successful treatment upon their early recognition. The time spent in the worse than useless pursuit of fraudulent nostrums and quack doctors proves a sacrifice of time and often insures a fatal termination, which might otherwise have been prevented.

The new public-health laws are as follows:

DIVISION OF CHILD HYGIENE.

AN ACT to create a division of child hygiene in the State Board of Health, and to define the duties of the same.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. That there is hereby created in the Kansas State Board of Health a division to be known as the division of child hygiene, to be under the general supervision and direction of the State Board of Health.

SEC. 2. That the general duties of this division of the State Board of Health shall include the issuance of educational literature on the care of the baby and the hygiene of the child, the study of the causes of infant mortality and the application of preventive measures for the prevention and the suppression of the diseases of infancy and early childhood, and such other duties as are prescribed by the State Board of Health.

SEC. 3. That this act shall be in full force and effect after its publication in the statute book.

FREE DENTAL INSPECTION.

AN ACT to create and maintain free dental inspection in the public schools of all cities now having, or which may hereafter attain a population of forty thousand inhabitants.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. All cities now having, or which may hereafter attain, a population of forty thousand people may provide free dental inspection for all children attending public schools therein.

SEC. 2. The board of education or body controlling the public schools in said cities may establish such place or places of inspection as may be necessary; designate such competent and licensed dentist or dentists who shall make such inspections, and fix and provide compensation for him or their services therefor, and for any and all dental work required or by them deemed necessary to be done under and by virtue of such inspection, and make any and all rules by said board deemed necessary and proper to regulate such inspection and carry the same into effect; and may prescribe and cause to be prepared all forms and blanks necessary in the details of said inspection.

SEC. 3. A certificate of the result of such inspection, over the signature of the party making such inspection, shall be furnished to each child, without cost, at the time of such inspection, and a duplicate thereof filed with the clerk of said board of education; provided, however, that before any dental work shall be done said certificate of inspection so delivered to each child shall be returned with the consent of the parent or guardian of said child endorsed thereon.

SEC. 4. All acts and parts of acts in conflict herewith are hereby repealed.

SEC. 5. This act shall take effect and be in force from and after its passage, approval and publication in the official state paper.

ANALYSIS OF WATERS.

AN ACT giving the State Board of Health power to require analysis of waters furnished or sold to the public, and to provide rules and regulations for said analysis and collection of samples of water, and to prescribe penalties for the violation of said rules and regulations.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. That the State Board of Health shall make, and publish in the official state paper, rules and regulations for the collection of samples and analysis of water, either natural or treated, furnished by municipalities, corporations, companies or individuals to the public, and shall fix the fees for any services rendered under said rules and regulations to cover the cost of the services, which fees shall be approved by the State Board of Administration before they become operative.

SEC. 2. The analysis of all waters required in the rules and regulations shall be made at the water and sewage laboratory of the State Board of Health in the University of Kansas, and the fees collected under the provisions of this act shall be turned into the state treasury for the benefit of said laboratory of the University of Kansas.

SEC. 3. That every corporation, railway, common carrier, company or individual that shall fail to comply with the rules and regulations prescribed by the State Board of Health under this act shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than \$50 nor more than \$500.

SEC. 4. This act shall take effect and be in force from and after its publication in the official state paper.

SEWER CONNECTIONS.

AN ACT relating to cities of the first, second and third class, which have or which may hereafter construct and maintain a sewer system, and requiring property owners to connect their premises with such sewer system, authorizing such connection to be made by the city, and prescribing assessments and penalties in relation thereto.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. Any city of the first, second or third class may by ordinance require persons and property owners owning dwelling houses or buildings within cities of the first, second or third class of the state of Kansas, which building or buildings are, or shall be located near a sewer, or in a block wherein any such sewer district in said city through which a sewer extends, to make such connections with said sewer system of said city as may be necessary, in the judgment of the Board of Health, for the protection of the health of the public, for the purpose of disposing of all substances from any such building affecting the public health which may be lawfully and properly disposed of by means of such sewer; and any person or persons who shall fail, neglect or refuse to so connect any building or buildings with the sewer system of such cities, as herein provided for, for more than ten days after being notified in writing by the board of health of such cities to do so, any such city may cause such premises and buildings to be connected with said sewer system, and are hereby authorized to advertise for bids for the construction and making of such sewer connections, and to contract therefor with the lowest responsible bidder or bidders, and cause such premises to be connected with said sewer system, and to assess the costs and expenses thereof against the property and premises so connected, such assessment to be made in the same manner as other special assessments are made.

SEC. 2. This act shall be in force from and after its publication in the official state paper.

FRAUDULENT ADVERTISEMENTS.

AN ACT relating to false, misleading and fraudulent advertising, and prohibiting false, misleading and fraudulent advertising in books, handbills, posters, labels, bills, circulars, pamphlets, letters, newspapers or other publications, or in any other way whatsoever, and providing penalties for the violation of this act.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. That any person, firm, corporation or association who, with intent to sell or in any wise dispose of any merchandise, securities, service or anything offered by such person, firm, corporation or asso-

ciation, directly or indirectly, to the public for sale or distribution, or with intent to increase the sale or consumption thereof, or to induce the public or any person in any manner to enter into any obligation relating thereto, or to acquire title to or an interest therein; who makes, publishes, disseminates, circulates or places before the public, or causes the same to be done, either directly or indirectly, in this state, whether by newspaper publication or otherwise, as herein provided, any label, notice, handbill, poster, bill, circular, pamphlet, or letter, or in any other way, any advertisement of any kind or character regarding merchandise, securities, service, or any other thing or commodity offered to the public, which advertisement contains any assertion, representation or statement which is in fact untrue, deceptive or misleading, shall be deemed guilty of a misdemeanor, and upon conviction in any court of competent jurisdiction shall be punished by a fine in any sum not exceeding five hundred dollars, or by imprisonment in the county jail not exceeding one year, or by both such fine and imprisonment, for every such offense, and each day such publication or communication shall be published or disseminated shall constitute a violation of the provisions of this act and shall be deemed a separate and distinct offense; provided also, that the provisions of this act shall not apply to the publisher of any newspaper or other publication who publishes or causes to be published, disseminated or circulated any written or printed statement prohibited by the provisions of this act, without knowledge that it is false.

SEC. 2. It shall be the duty of the attorney-general of the state of Kansas and each county attorney of each county in Kansas, on complaint being made to them, to vigorously prosecute any and all offenders against the provisions of this act.

SEC. 3. This act shall not be construed to impair, amend, modify or repeal the provisions of any law now in force.

SEC. 4. This act shall take effect and be in force from and after its publication in the official state paper.

Lost and Found.

I shed a button upon the stair,
It fell right down, I knew not where;
For, so swiftly it bounced, the sight
Could not follow it in its flight.

I breathed a joke into the air,
It fell right down, I knew not where;
But certainly that joke fell flat—
There is n't the slightest doubt of that.

Long, long afterward—what do you think.
The button became a tiddlewink;
And the joke, from beginning to end,
I heard again from the mouth of a friend.

—Lawton McCall in *Century*.

Too many cooks roil the boss.

Sleep.

Directions for securing sleep may be mentioned in this order:

Keep very busy during the day.

Retire when you have a well-recognized desire.

Notice that the bed is comfortable and the room quiet.

Use care that the head is not too low, and commonly it should be placed to the north.

Think of nothing unpleasant.

If bugs exist close out your stock the first opportunity.

If you have not bathed lately it will not be amiss to do so once or twice weekly.

If your neighbor's cats annoy you throw a few Jackson crackers in their midst. If this fails, try a shotgun.—*I. F. Purviance, M. D., in Medical Summary.*

As the poet has observed—"Those only is gentlemen who behave as sich."—*The Irish Sketch Book.*

What the Baby Needs and Does Not Need.

The Buffalo Sanitary Bulletin, the organ of the local board of health, sets forth a few needs of the baby in direct and forceful style, thus:

It needs—

Two healthy parents.

One intelligent mother.

A good doctor.

Its birth registered.

Mother's milk for food.

Pure fresh air and good water.

Sleep, alone and undisturbed.

Daily baths and comfortable clothing.

It should have regular habits of eating, of sleeping, of bathing, of exercise and of bowel movement.

It does not need—

Everybody's advice.

Old-fogy practices.

Soothing syrup and other dopes.

Pacifiers.

Cradle churning.

Flies and dirty milk.

Adult food.

Kissing on the mouth, and

Contagious diseases.

Buying Health in Bottles.

"Our national quality of commercial shrewdness fails us," says Samuel Hopkins Adams in "The Great American Fraud," "when we go into the open market to purchase relief from suffering. The average American when he sets out to buy a horse or a box of cigars is a model of caution. Show him testimonials from any number of prominent citizens and he would simply scoff. Now observe the same citizen seeking to buy the most precious of all possessions, sound health. Anybody's word is good enough for him here. An admiral whose puerile vanity has betrayed him into a testimonial; any obliging and conscienceless senator; a grateful idiot from some remote hamlet; a renegade doctor or a silly woman who gets a bonus of a dozen photographs for her letter—any of these are sufficient to lure the hopeful patient to the purchase. He would n't buy a second-hand bicycle on the affidavit of any of them, but he will give up his dollar and take his chance of poison on a mere newspaper statement which he does n't even investigate."—*Exchange*.

Fire Protection and Health Protection.

NORTH TOPEKA FOR 'EM.

Aligning itself squarely in favor of the tax levy for the firemen platoon system, North Topeka is putting up a stout fight to help out the fire boys. It is difficult to find a dissenter.

The following is a sample conversation overheard in North Topeka:

"Going to vote for the firemen tax levy?"

"Sure. Aren't you?"

"Why should n't I? It'll give me and everybody else lots better fire protection, and the cost will be nominal."

"That's what I say. And it'll help the fire boys out a great deal, too."
—*Topeka Capital*, March 27, 1915.

No one will oppose, or dispute the efficacy of fire protection or criticise its cost. But would n't it seem strange to hear of an election waged on the question of efficient public-health service? Are we hypocritical in asserting that American civilization is superior to European, and that we place human life above property value? It's up to you to answer, Mr. Citizen. What is your community doing to protect the health of you and your family?

Clean-up Day.

It has become the fashion to have "Clean-up" days. Contrary to most fashions, Clean-up Day is the logical result of an insistent demand based on an urgent sanitary need. Gradually the community conscience is being aroused to a sense of the obligation existing between the individual and the community in which he lives.

The individual is beginning to realize that the community is no cleaner than the sum total of insanitary conditions found therein, and, therefore, that community cleanliness, or lack of cleanliness, is a fair index of the kind and degree of cleanliness of the individuals in such community. Not a pleasant reflection, is it? But it is a logical, albeit a dirty, fact.

Spring is the time when special effort should be made to remove and destroy the winter's accumulation of garbage, waste, debris and filth, which latter, if left undisturbed, may become the breeding and feeding place of flies, mosquitoes, mice and rats, and the source of disease and fires.

Accordingly, Governor Capper has designated April 16 as Clean-up Day, and it is strongly urged that every citizen assist this movement by cleaning up his own premises, and urging the adoption of a general community clean-up.

Women are instinctively clean, and it is therefore not to be wondered at that the organized women's clubs of the state are taking the leading part in making a success of the Clean-up Day. It behooves mere man to wake up and bestir himself in this sanitary crusade, else his boasted right to leadership in the onward march of civilization may be wrested from him by the lesser but cleaner side of the race.

"Cleanliness is next to godliness." Be clean and live the righteous life!

THE AWFUL AMERICAN MEDICAL TRUST

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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APRIL, 1915.

VOL. XI

KANSAS MILK SURVEY BULLETIN.

Look inside!

Clean milk—better babies.

Dirty milk—dirty mothers—infant mortality!

How much fertilizer are you getting in your milk?

If your milkman brings you warm milk, make it hot for him.

The Dodge City flyless dairy is an epoch in clean milk production.

Read the Bulletin on the Kansas Milk Survey and then insist that your city have *city milk inspection*.

The interior of the flyless dairy barn is clean, sweet and sanitary.

MORBIDITY REPORTS FOR MARCH, 1915.

Number of cases reported from each county.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Measles.....	Smallpox.....	Mumps.....	Chicken pox.....	Whooping cough....	Meningitis.....	Tetanus.....	Polio-myelitis.....	Trachoma.....	Other communicable diseases.....
THE STATE.....	29	91	85	960	392	306	113	73	6	0	0	240	24
Allen.....	0	7	0	0	0	2	0	1	0	0	0	0	0
Anderson.....	0	2	0	0	30	0	0	1	0	0	0	0	0
Atchison,* except. Atchison city.....	1	1	0	0	0	14	0	0	0	0	0	0	0
Barber.....	1	0	0	0	3	0	0	0	0	0	0	0	0
Barton.....	0	4	1	1	1	17	0	0	0	0	0	0	0
Bourbon, except. Fort Scott.....	2	0	0	4	0	0	1	0	0	0	0	0	0
Brown.....	1	0	0	8	0	0	0	3	0	0	0	0	0
Butler.....	1	1	1	156	4	4	7	3	0	0	0	0	5
Chase.....	1	0	0	0	43	0	0	0	0	0	0	0	0
Chautauqua.....	1	1	1	0	0	0	1	0	0	0	0	0	0
Cherokee.....	1	1	4	0	5	0	0	1	0	0	0	0	2
Cheyenne.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Clay.....	1	0	1	0	37	13	0	2	0	0	0	0	0
Cloud.....	1	0	3	26	0	26	0	0	0	0	0	0	0
Coffey.....	1	0	0	0	0	0	2	0	0	0	0	0	0
Comanche.....	0	0	0	0	29	0	0	0	0	0	0	0	0
Cowley.....	0	2	1	4	0	0	0	0	0	0	0	0	0
Crawford, except. Pittsburg.....	0	3	0	1	2	0	1	0	0	0	0	0	0
Decatur.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Dickinson.....	1	0	1	0	0	1	0	0	0	0	0	0	0
Doniphan.....	0	1	2	0	11	1	0	0	0	0	0	232	1
Douglas.....	1	0	0	0	0	13	5	11	0	0	0	0	0
Edwards.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Elk.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Ellis.....	0	0	0	6	0	0	0	0	0	0	0	0	1
Ellsworth.....	2	1	0	0	0	1	4	0	0	0	0	0	0
Finney*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Ford.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Franklin.....	0	0	0	0	3	0	0	0	0	0	0	0	0
Geary.....	0	0	5	0	0	0	0	0	0	0	0	0	0
Gove.....	0	0	5	0	0	1	0	0	0	0	0	0	0
Graham.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Greeley.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood.....	1	0	0	0	1	2	1	0	0	0	0	0	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	2	14	0	0	0	0	0	0	0	0
Harvey.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Jefferson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Jewell.....	1	0	0	10	5	0	0	0	0	0	0	0	0
Johnson.....	0	0	0	0	0	1	0	0	0	0	0	0	0
Kearny.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Kiowa.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Labette, except. Parsons.....	0	2	0	9	0	14	1	0	0	0	0	0	0
Lane.....	0	0	0	0	14	0	0	0	1	0	0	0	0
Leavenworth, except. Leavenworth city....	0	1	5	0	0	2	0	0	0	0	0	0	4
Lincoln.....	0	0	0	17	0	8	4	4	0	0	0	0	0
Linn.....	0	1	0	0	1	0	0	0	0	0	0	0	0

* No report received.

MORBIDITY REPORTS FOR MARCH, 1915—Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Measles.....	Smallpox.....	Mumps.....	Chicken pox.....	Whooping cough.....	Meningitis.....	Tetanus.....	Poliomyelitis.....	Trachoma.....	Other communicable diseases.....
Logan.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon.....	0	1	0	61	1	3	0	0	0	0	0	0	0
Marion.....	0	0	0	0	0	16	0	0	0	0	0	0	0
Marshall.....	0	0	0	11	2	0	0	0	0	0	0	0	0
McPherson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Meade.....	0	0	0	3	0	1	0	0	0	0	0	0	0
Miami.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitchell.....	0	0	0	39	0	7	0	0	0	0	0	0	0
Montgomery, except. Coffeyville.....	0	0	1	1	2	0	1	10	0	0	0	0	0
Morris.....	0	0	0	0	1	1	0	0	0	0	0	0	0
Morton.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Nemaha.....	1	0	1	0	0	0	0	1	0	0	0	0	0
Neosho.....	1	1	0	8	2	1	1	1	0	0	0	0	0
Ness.....	1	0	0	0	0	0	0	1	0	0	0	0	0
Norton.....	0	0	1	7	0	4	0	1	0	0	0	0	0
Osage.....	0	0	0	0	6	0	7	0	0	0	0	0	0
Osborne.....	0	0	0	4	2	0	0	0	0	0	0	0	0
Ottawa.....	0	0	1	137	0	21	0	11	0	0	0	0	0
Pawnee.....	0	0	1	0	2	0	0	0	0	0	0	0	0
Phillips.....	0	1	1	29	5	25	0	0	0	0	0	0	0
Pottawatomie.....	0	0	2	1	0	0	0	0	0	0	0	0	0
Pratt.....	0	0	3	1	1	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	2	0	2	0	0	0	0	0	0	0
Reno, except. Hutchinson.....	1	0	0	3	0	1	0	0	1	0	0	0	0
Republic.....	0	1	4	0	5	0	0	0	0	0	0	0	0
Rice.....	0	0	0	9	3	0	0	9	0	0	0	0	0
Riley.....	0	0	0	3	9	10	11	0	0	0	0	0	0
Rooks*.....													
Rush*.....													
Russell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Saline.....	0	3	1	89	3	2	16	4	0	0	0	0	1
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except. Wichita.....	0	0	0	0	4	0	0	0	0	0	0	0	0
Seward.....	0	2	9	80	28	8	7	3	0	0	0	8	0
Shawnee, except. Topeka.....	0	0	3	5	0	0	0	0	0	0	0	0	0
Sheridan*.....	2	15	2	107	5	0	2	0	1	0	0	0	0
Sherman.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Smith.....	0	4	0	66	0	0	1	0	0	0	0	0	0
Stafford.....	0	0	0	0	7	0	0	0	0	0	0	0	0
Stanton*.....													
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	1	0	5	6	45	17	23	0	2	0	0	0	0
Thomas.....	1	0	0	23	0	1	0	0	0	0	0	0	0
Trego.....	0	0	2	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	1	0	0	0	0	0	0
Washington.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	0	1	0	0	2	4	1	0	0	0	0	0	0
Woodson.....	1	5	0	0	0	0	0	0	0	0	0	0	0
Wyandotte, except. Kansas City.....	0	12	15	7	24	5	4	5	1	0	0	0	0

* No report received.
Other communicable diseases: Pneumonia, 16; cancer, 4; erysipelas, 3; conjunctivitis, 1.

CONTENTS.

	page
Introduction.....	85
Bacteria in milk.....	86
Skimming of milk and the addition of water to milk.....	92
Dairy inspection.....	94
The milk sediment or dirt test.....	95
Pasteurization.....	96
Results of analyses of milk and cream—a survey of forty-six cities in Kansas.....	98
Bacteriological analyses of milk.....	111
References for the producers and consumers of milk.....	115
Influence of the foot-and-mouth disease on milk.....	115
Recommendations to producers of milk.....	116
Recommendations to consumers of milk.....	117
Recommendations and information to city governments relative to milk ordinances and milk inspection work.....	118
Standards for milk and its products.....	119
The flyless dairy.....	122
Acknowledgments.....	124

ILLUSTRATIONS.

The interior of the flyless dairy barn is clean, sweet and sanitary....	Cover
Chemical and bacterial testing laboratory for milk.....	91
Figure I.—Graphic summary of Kansas milk survey.....	112
Figure II.—Graphic summary of Kansas milk survey.....	113
Figure III.—Graphic summary of Kansas milk survey.....	114
General view of the “flyless dairy” in Ford county, Kansas.....	123
View showing the herd and cow-barn of the “flyless dairy” in Ford county, Kansas.....	123
Heredity versus food in development.....	124
The wrapping of baker’s bread.....	125
Bacillus-carriers among animals.....	126
A song for Kansas.....	128

A Survey of the Milk Situation in Kansas.

By

THE DIVISION OF FOODS AND DRUGS.

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Introduction.

Pure, clean milk is something that every citizen of Kansas is entitled to have. In fact, the character of the milk supply plays an important part in the health of any community. Very few realize that the condition of the milk supply in Kansas is a very serious problem. When produced amid unclean surroundings or handled carelessly, milk used by babies is certain to produce much intestinal trouble and frequent deaths. Kansas has not solved this unclean milk problem, and it is the object of this paper to show what the real conditions are at the present time in this state.

During the months of January and February, 1915, we surveyed the milk situation in all cities of Kansas having a population of 3000 or above, and in addition several other towns with a small population. Milk samples were collected as far as possible from every dairyman supplying milk to these forty-six cities and towns, and were submitted to our laboratories for examination. This is the largest milk survey that has ever been attempted in this state. A total of 622 samples of milk and 52 samples of cream were officially collected. Eight and sixty-five hundredths per cent of the milk samples and 17.6 per cent of the cream samples collected in the cities having a population of 10,000 or above were found to be adulterated; 15.23 per cent of milk samples and 11.11 per cent of cream samples collected in other cities below 10,000 population were found to be adulterated. The reason for this declaration was on account of skimming and watering, or both, and in a number of cases on account of visible dirt. The milk was not examined for total number of bacteria except where two city laboratories had apparatus for such examination, namely, Fort Scott and Topeka. These two cities have very kindly given us the available results of such examinations for the period surveyed, and

these results will be incorporated with this state report. All chemical examinations were carried on in the laboratories of the State Board of Health at the University and the Agricultural College. A number of milk sediment or dirt tests were made by some of our inspectors and also by our laboratories. The reason for not taking samples of milk and cream for bacteriological examinations is very plainly portrayed in the writer's discussion in this bulletin on the subdivision Bacteria in Milk.

The writer will take up in this discussion the following topics: Bacteria in Milk, The Skimming of Milk and the Addition of Water to Milk, Dairy Inspection, The Milk Sediment or Dirt Test, and The Pastuerization of Milk. After such generalizations, the writer will give in detail the results of analyses of the milk and cream collected in this survey, together with such information as the consumers of milk in these cities should know. Following these results will be given references on milk as are available to the citizens of this state who wish to write to the United States government for them. Some recommendations which may be helpful to producers and consumers of milk will be given; besides, recommendations relative to milk ordinances and inspection work will be suggested to city governments.

Bacteria in Milk.

The essential food of bacteria, consisting of water, inorganic elements, and a certain amount of organic matter, is particularly well afforded by milk, in its sugar, casein, water and salts. Thus germs which fall into it may live and even multiply rapidly. Ordinary market milk has a very high germ content. Results summarized from the work done for the Kansas State Board of Health, published in November, 1908, show a variation from under 10,000 bacteria per cubic centimeter, the lowest, to 69,000,000 bacteria per cubic centimeter, the highest, in the milk supplied to consumers of the first-class cities of Kansas. The germ content of cream of these cities at that time was found to be under 10,000 bacteria per cubic centimeter, the lowest, to 307,000,000 bacteria per cubic centimeter, the highest.

The number of kinds which may be present is various, from five to twenty or more. About two hundred species have been described by Conn as found growing in milk. From these facts it may be inferred that a good milk may contain many germs. For all ordinary purposes, it is *the kind* which becomes a matter of concern. To regulate this matter, the element of intelligent control may be effectively introduced. The purpose of regulating the kind of germs or bacteria present in milk is seen to be of first importance when it is understood that the peculiarities of character and the characteristic changes which occur in this substance and its products are chiefly due to germ content. Milk as it is formed in the secreting glands and ducts of a healthy animal is void of bacteria. If it might be drawn in that condition and kept sealed, it would always remain sweet. All kinds of fermentations after milking, resulting in common souring, curdling, slimy or stringy conditions, formation of bad odors and tastes, may be accounted to the presence of peculiar species of microorganisms. But there are many kinds of germs, and not all are evil in action. The best types of butter and cheese each owe their good qualities of aroma, flavor and edibility to the predominant germ content. Disease-producing species and detrimental sorts are rare, and when present in milk are there chiefly through ignorance, or because of carelessness with reference to filth. In order to obtain a less germ-infected type of milk it must be properly drawn, handled and stored. To do this one must have in mind the sources of germ contamination and the conditions under which microorganisms live and multiply. It can be readily seen that a bacteria count, to be of any great value in judging the quality of milk, must be accompanied by a sanitary survey of the premises, methods and conditions under which the milk was produced, transported and stored.

The effect of certain dairy operations upon the germ content of milk has been very thoroughly investigated at the New York State Experiment Station, Geneva, N. Y. This report was published in 1913 and covered a period of five years' work. The summary of this investigation is that there is great opportunity for economy in sanitary milk production through the saving of useless labor. In order to be a guide in this matter, dairy studies must be on the basis of single dairy processes. The protection of milk pails from accidental contamination

after they had been thoroughly steamed has a measurable effect in reducing the germ content of the milk. The cleanliness of the interior of the stable, within a fairly wide range, had no measurable effect upon the milk. Clipping the udder, flank and adjoining portions of the cow slightly increased the germ content of the milk when the cow was cleaned either by hand or with a vacuum machine. When cows were cleaned with a brush and comb at the rate of two cows per minute the germ content of their milk was practically the same as when the same cows were treated with a vacuum cleaner at the rate of one cow per minute. When all of the utensils had been carefully steamed, cooling and straining the milk resulted in only a small increase in germ content, even when this was done under what would ordinarily be considered as rather unfavorable conditions.

The bacteria in milk produced under varying conditions was studied by W. K. Brainard of the Virginia Polytechnic Institute Agricultural Experiment Station in 1909 and 1910. Summarizing from his results, it is very evident that under present methods of investigation it is not practicable to inspect milk bacteriologically to determine whether it contains disease germs; but it is true that the bacterial count would be valuable in determining whether milk is old or has been produced under sanitary conditions or not, and such a count, in connection with the score card, or in many cases superseding it, should be used extensively in milk inspection. Experiments done by this investigator show very plainly that the milking machine will produce milk containing a large percentage of bacteria unless some precaution is used to prevent the growth of bacteria in the rubber parts of the machine between milking periods. Lime water is a cheap and convenient thing to use for this purpose, and, when it is used, results as good or better than hand milking should be obtained. Other results by this investigator show that there was practically no development of bacteria in the cans after they left the barns, and very little contamination in taking the samples for making tests in the investigation. A small number of bacteria were introduced in straining the milk into the cans and from contamination in the can. The exact amount of this contamination can not be estimated, because the number of cows milked under the different conditions was not regulated. Over 50 per cent of the bacteria came from the bed-

ding. This was, therefore, the greatest source of contamination under the conditions studied by this investigator. About 14 per cent came from the flanks and udders of the cows. Other conditions being equal, 24.5 per cent of the bacteria secured in an open pail will be avoided if a closed pail is used. The discarding of the first four strippings from each teat made a difference of less than 125 bacteria per cubic centimeter, and is of comparatively small importance except when everything else is the best and the very lowest count is aimed at. It is believed that the main problem, after the cows and stables are clean, is to prevent the circulation of dust. In doing this it is very evident that no feeding should take place during milking. This investigator quoted is of the opinion that a large percentage of the bacteria found in the milk in his investigations came from this source alone. Next of importance is the bedding that was used. He found more than twice as many bacteria when straw was used as when sawdust was used; that is, sawdust is equal to moistened straw in keeping down the number of bacteria in milk. Sawdust is of no value as manure and, to some extent, detracts from the value of the droppings from the cow. On the other hand, straw is a good absorbent and has a value of its own as a fertilizer.

An investigator, W. A. Stocking, jr., of the Storrs Agricultural Experiment Station, at Storrs, Conn., in summarizing from his investigation of the so-called "germicidal property" of milk, says that milk produced under ordinary conditions becomes contaminated with considerable, frequently very large, numbers of bacteria. These organisms come from various sources, and comprise a large number of species. Many of the species gaining access to the milk find the conditions so different from their natural habitat that they are not able to multiply, and therefore they drop out very soon. Others which find the conditions not quite so unfavorable can multiply slowly for a time, but, gradually losing their vitality, disappear. Other species which gain access to the milk find the conditions well suited to their development, and multiply more or less rapidly and continuously from the very start. The lactic acid species (*Bact. lactis acidi* and *B. lactis acrogenes*), together with certain nonacid species, come within this group. The decrease in the numbers of the normal milk bacteria during the first few hours after milking is not prop-

erly to be attributed to "germicide condition or property" possessed by the milk, but simply of the natural dropping out of those species which do not find the milk a suitable medium in which to develop. When fresh milk contains the typical lactic organisms, namely, *Bact. lactis acidi* and *B. lactis acrogenes*, even in very small numbers, they may be expected to increase continuously from the very outset. *Immediate cooling is therefore necessary if the growth of these species is to be held in check.*

Unlike other foods, milk is usually consumed in the raw state, and therefore seldom passes through treatment by which dangerous germs, if it contains such, are destroyed before it reaches the consumer. Most other foods are cooked before they are eaten, and the bacteria which are present are thus killed by the heat. Instead of being killed after introduction into the milk, bacteria that find the milk a suitable place for development increase at a rapid rate. Impure milk, owing to the existence of possible pathogenic or disease-producing organisms, may cause serious and even fatal disease. Outbreaks of typhoid fever, diphtheria, scarlatina, septic sore throat, etc., have been definitely traced to infected milk. Frequently cow's milk is the only nourishment taken by infants and invalids, and it is these who are the least able to withstand the ill effects of impure milk or food. The importance of an absolutely pure milk, therefore, can not be overestimated.

In his discussion of typhoid and its relation to the milk supply, Dr. John F. Anderson, director of the Hygienic Laboratory of the United States Public Health Service, Washington, D. C., says that the finding of typhoid bacillus in the suspected milk is practically hopeless, as the milk rarely comes under suspicion for at least three weeks after having become infected. In addition, the technical difficulties are so great that it is an almost hopeless procedure, though the isolation of the organism should be attempted. *If successful, it is absolutely conclusive.*

Nevertheless, in the last two years epidemics of typhoid fever have been traced to milk supplies in three cities of Kansas, namely, Manhattan, Parsons, and Wichita. In the city of Parsons, investigations carried on by the State Board of Health officials, with the coöperation of the city health officer, established the fact that from August 25, 1913, to September 9,

Chemical and Bacteriological Laboratory for Milk The above picture shows an expensive equipment and modernized work in

1913, twenty-three cases of typhoid fever have developed in that city, and that in the first two days of the period mentioned ten cases had suddenly appeared. The investigation that followed showed that nineteen of these cases occurred along the milk route of a certain dairyman. Investigation failed to establish any other common source of food supply. Inquiry of employees at the dairy developed the fact that water in which milk bottles and vessels were washed had been boiled and all containers thoroughly scalded. *The technique was broken, however, when, as a final step, all bottles were cooled by unboiled water direct from the well.* Users of the city water in portions of the city other than on milk route were not affected, and infections ceased on closing of the dairy well. There were three deaths from this particular epidemic of typhoid fever, the spreading of which was due to this particular milk supply.

The Skimming of Milk and the Addition of Water to Milk.

The addition of water is not only fraudulent, but is as dangerous to the health of the innocent baby, invalid and other consumers as the practice of adding embalming fluids. In the first place, the individual is deprived of the proper nourishment, and thus the little, innocent baby may be inadvertently starved to death by such a diluted fluid. But a still greater danger lurks in the presence of disease germs which frequently find their way into the surface wells, ditches and streams. Typhoid germs are often present in the human system for months after the external signs of the disease have disappeared. These germs are present in the human excreta and often find their way into sources of water supply. These germs multiply many times faster in the milk than in the water, so that the consumer, a few hours after the water has been added, is in many times greater danger than the person who drinks the water itself. The greatest possible cleanliness and care must be exercised in keeping milk free from any form of contamination. The skimming of milk by removal of the cream is also criminal when such "skimmed milk" is sold as "milk," for the simple reason stated above—that the individual is deprived of the proper nourishment, and thus the innocent baby may be inadvertently starved to death by the removal of the real life-giving quality of the milk, viz., the milk fat or cream.

SCORE CARD.

Sanitary Inspection of Dairies.

A SCORE CARD FOR THE SANITARY INSPECTION OF DAIRIES, WHICH SHOULD BE USED TO INSPECT EVERY DAIRY IN THIS STATE.

EQUIPMENT.	Score.		METHOD	Score.	
	Perfect.	Allowed.		Perfect.	Allowed.
COWS.			COWS.		
Health.....	6		Cleanliness of cows.....	8	
Apparently in good health.....	1		STABLES.		
If tested with tuberculin once a year and no tuberculosis is found, or if tested once in six months and all reacting animals removed.....	5		Cleanliness of stables.....	6	
(If tested only once a year and reacting animals found and removed, 2.)			Floor.....	2	
Comfort.....	2		Walls.....	1	
Bedding.....	1		Ceiling and ledges.....	1	
Temperature of stable.....	1		Mangers and partitions.....	1	
Food (clean and wholesome).....	2		Windows.....	1	
Water.....	2		Stable air at milking time.....	6	
Clean and fresh.....	1		Barnyard clean and well drained.....	2	
Convenient and abundant.....	1		Removal of manure daily to field or proper pit.....	2	
STABLES.			(To 50 feet from stable, 1.)		
Location of stable.....	2		MILK ROOM.		
Well drained.....	1		Cleanliness of milk room.....	3	
Free from contaminating surroundings.....	1		UTENSILS AND MILKING.		
Construction of stable.....	4		Care and cleanliness of utensils.....	8	
Tight, sound floor and proper gutter.....	2		Thoroughly washed and sterilized in live steam for 30 minutes.....	5	
Smooth, tight walls and ceiling.....	1		(Thoroughly washed and placed over steam jet, 4; thoroughly washed and scalded with boiling water, 3; thoroughly washed, not scalded, 2.)		
Proper stall, tie, and manger.....	1		Inverted in pure air.....	3	
Light: Four sq. ft. of glass per cow (Three sq. ft., 3; 2 sq. ft., 2; 1 sq. ft., 1. Deduct for uneven distribution.)	4		Cleanliness of milking.....	9	
Ventilation: Automatic system.....	3		Clean, dry hands.....	3	
Adjustable windows.....	1		Udders washed and dried.....	6	
Cubic feet of space for cow; 500 to 1,000 feet.....	3		(Udders cleaned with moist cloth, 4; cleaned with dry cloth at least 15 minutes before milking, 1.)		
(Less than 500 feet, 2; less than 400 feet, 1; less than 300 feet, 0; over 1,000 feet, 0.)			HANDLING THE MILK.		
UTENSILS.			Cleanliness of attendants.....	1	
Construction and condition of utensils.....	1		Milk removed immediately from stable.....	2	
Water for cleaning.....	1		Prompt cooling (cooled immediately after milking each cow).....	2	
(Clean, convenient and abundant.)			Efficient cooling; below 50° F. (51° to 55°, 4; 56° to 60°, 2.)	5	
Small-top milking pail.....	3		Storage, below 50° F. (51° to 55°, 2; 56° to 60°, 1.)	3	
Facilities for hot water or steam.....	1		Transportation; iced in summer (For jacket or wet blanket, allow 2; dry blanket or covered wagon, 1.)	3	
(Should be in milk house, not in kitchen.)			Total.....	60	
Milk cooler.....	1				
Clean milking suits.....	1				
MILK ROOM.					
Location of milk room.....	2				
Free from contaminating surroundings.....	1				
Convenient.....	1				
Construction of milk room.....	2				
Floor, walls and ceiling.....	1				
Light, ventilation, screens.....	1				
Total.....	40				

Equipment..... + Methods..... =Final score.

NOTE 1.—If any filthy condition is found, particularly dirty utensils, the total score shall be limited to 49.
NOTE 2.—If the water is exposed to dangerous contamination or there is evidence of the presence of a dangerous disease in animals or attendants, the score shall be 0.

Following is an excellent score card for milk recently adopted by one of the first-class cities of Kansas:

DEPARTMENT OF MILK INSPECTION.

Score Card for Milk.

Name..... Address.....

ITEM.	Perfect score.	Score allowed.	
Bacteria.....	35	.....	Bacteria found per cubic centimeter.....
Flavor and odor.....	10	.....	{ Flavor.....
			{ Odor.....
Temperature when delivered,	15	.....	Temperature found.....
Visible dirt.....	10	.....
Fat.....	10	.....	Per cent. found.....
Solids not fat.....	10	.....	Per cent. found.....
Acidity.....	5	.....	Per cent. found.....
Bottle and cap.....	5	.....	{ Cap.....
			{ Bottle.....
Total.....	100	.....

Date sample taken..... Time.....

Time analysis was started.....

Sample taken from.....

Remarks:

..... Analyst. Milk Inspector.

Dairy Inspection.

The animals and premises of all dairymen selling milk to the public should be subject to legitimate inspection by capable city and county inspectors, thus preventing the general sale of disease-producing milk. It can scarcely be considered other than criminal to allow the sale of milk from premises known to possess tubercular cows, or known to be infected with the germs of typhoid fever, scarlet fever or diphtheria, or known to have been infected from diseased udders, which may cause an epidemic of septic sore throat. In the absence of laws or ordinances, a little investigation and inspection on the part of patrons themselves is not unwise. Our county health officers do what they can to remedy the conditions found in some of the dairies of Kansas, but these health

officers are very poorly paid. Since, according to the report of the Commission on Public Health to the governor of the state of Kansas, the average compensation given by the county to the county health officer is only \$310.34 per annum, one can hardly expect much sanitary inspection of the dairies of the state of Kansas by local health officers. Again, our three traveling food inspectors have the entire state to cover, and they can only give incidental consideration to dairy inspection, except on special occasions. Reports from fifty-four county and city health officers during October, 1914, show that the total number of exclusive dairies known to them was 223, and the estimated number of private families who distribute milk in their territory was 941. Since only about one-half of these health officers reported, it can be estimated that there are at the least 2328 dairies or individuals supplying milk and cream to the consumers of Kansas. These health officers mentioned classed 251 of these dairies as follows: 43.82 per cent good; 18.32 per cent good to fair; 33.06 per cent fair; and 4.80 per cent as poor.

The Milk Sediment or Dirt Test.

Our investigations as to the cleanliness of the milk supplied to the consumers in cities of this state of 3000 inhabitants or above show that Kansas is getting an exceedingly dirty supply of milk. We have specimens of the strainings of pint samples of milk which are nearly as black as tar. Other pint sample strainings show the presence of all kinds of foreign matter to milk, such as human hair, sand, yarn, flies, manure, alfalfa and other feeding-stuffs, pieces of metal from the cans or utensils, cow's hair, dirt, and in some cases pieces of gravel. The Wisconsin State Experiment Station published a circular in 1912 by A. C. Baer, and his observations show clearly that milk delivered to creameries and cheese factories, as well as that used for direct consumption in cities, contains large amounts of sediment and that this sediment indicated careless handling of the milk. In his investigation he points out that the small-top milk pail regularly used keeps a large amount of dirt out of the milk, and, by reducing the number of bacteria, prolongs the keeping quality of the milk. The straining or clarifying of milk does not materially increase its keeping

quality, but it improves the appearance of the milk. Contaminations such as dirt, manure and the bad odors of the stable will always leave their effect, no matter how the milk is subsequently treated. Farm separator cream may contain some sediment, but this is due entirely to contamination after it leaves the separator; a separator cream should show no trace of sediment. The sediment test is a simple and rapid method of furnishing evidence of the amount of sediment in milk, and is thus an index to its sanitary condition, *provided* the dirt has not previously been removed from the milk. Farmers generally do not realize that the milk is dirty unless they see the dirt; but when this is filtered from a pint of milk in his presence he will usually try to provide the conditions which will bring clean milk from his dairy.

Pasteurization.

Pasteurization is performed on a large scale by milk dealers through the use of several types of machinery, which not only quickly heat the milk to the proper temperature, but which hold it in a heated condition for half an hour before it is run over coolers which quickly reduce the temperature to 40° F. or lower. Attempts are now being made to pasteurize milk in the bottle, and several kinds of machinery have already been put into successful operation. Pasteurizing in the bottle is the ideal method. When pasteurized milk can not be purchased, or where for other reasons it is desirable to pasteurize milk at home, the process can be easily performed without special apparatus by gradually heating milk to 145 degrees and holding it there for one-half hour, after which it must be covered and kept cold. It is necessary to use a thermometer to be sure the milk is properly heated. Glass bottles of milk can be placed in cold water in a kettle and the water gradually heated to the right temperature. It is best to place or stand the bottles on an inverted pan inside the kettle of water, so as not to overheat the milk in the bottom of the bottles. The thermometer should, of course, be placed in the milk bottle, but the temperature of the water should also be tested until the milk reaches the right temperature. A double boiler is another way by which milk can easily be pasteurized at home.

The pasteurization of milk at home gives a guarantee to any householder that no disease can enter the family through the milk supply. Common decency demands that only clean milk be subject to pasteurization. Pasteurization will kill the disease-producing organisms, but it does not eliminate them. Neither does pasteurization take out certain chemical toxins which are produced by certain bacteriological processes. Fluid dirt, if you please, can not be "strained" or "clarified" from the milk; neither will heating the milk remove such foreign matter.

Results of Analyses of Milk and Cream.

(A survey of forty-six cities in Kansas.)

ABILENE.

NAME OF DAIRYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
Mrs. S. A. Chastain.....	2-10	4.80	14.12	9.32	Bulk.	No.	21171
Mrs. S. A. Chastain*.....	2-10					"	21173
Mr. Davis*.....	2-10					"	21176
Mr. Davis.....	2-10	3.85	12.68	9.83	Bottle.	"	21177
J. F. Eisenhower.....	2-10	5.60	15.51	9.91	"	"	21168
O. F. Fair.....	2-10	3.35	12.37	9.02	"	"	21169
R. E. Hershey.....	2-10	3.60	13.14	9.54	"	"	21170
L. C. Snare.....	2-10	3.80	13.13	9.33	Bulk.	"	21172
J. R. Wolverton.....	2-10	4.00	13.69	9.69	Bottle.	"	21174
<i>Cream:</i>							
J. R. Wolverton.....	2-10	32.50			Bottle.	No.	21175

* Taken for sediment test only.

ARKANSAS CITY.

<i>Milk:</i>							
W. E. Brennan.....	2-10	4.15	13.46	9.31	Bottle.	Yes.*	91088
P. H. Burks.....	2-10	5.40	14.95	9.55			91087
George E. Cochran.....	2-10	3.00	11.53	8.53	Bottle.	Yes.	91089
A. V. Franklin.....	2-10	3.95	13.22	9.27	"	No.	91085
Fred J. Learnard.....	2-10	4.25	13.67	9.42	"	"	91081
Fred J. Learnard.....	2-10	4.35	14.04	9.60	"	"	91082
Fred J. Learnard.....	2-10	3.90	13.59	9.69		"	91083
D. L. Levick.....	2-10	3.45	12.71	9.26		"	91086
F. A. True.....	2-10	5.20	15.25	10.05	Bottle.	"	91084

* Sediment heavy.

ATCHISON.

<i>Milk:</i>							
Deer Creek Creamery Co.....	1-12	5.80			Bottle.	No.	70504
Deer Creek Creamery Co.....	1-12	3.90			"	"	70500
A. A. Klopp.....	1-12	4.10			"	"	70502
A. A. Klopp.....	1-12	3.80			"	"	70494
Andy Lacy.....	1-12	4.00			Bulk.	"	70495
R. McAdow.....	1-12	3.60			"	"	70496
F. C. Ross.....	1-12	3.30	11.71	8.41	"	Yes.	70499
Ed Snyder.....	1-12	4.00			"	No.	70498
<i>Cream:</i>							
Deer Creek Creamery Co.....	1-12	18.0				No.	70501
Martin Jensen.....	1-12	20.0				"	70505
A. A. Klopp, (wagon 3, C. W. Morse)	1-12	17.0				Yes.	70503
Ed Snyder, (wholesale business)	1-12	16.0			Bulk.	"	70499

BELOIT.

<i>Milk:</i>							
Fern Bibler.....	2-24	3.55	12.66	9.11	Bulk.	No.	21216
P. J. Conroy.....	2-24	3.75	13.06	9.31	Bottle.	"	21214
Wes. Doyle.....	2-24	4.80	13.76	8.96	"	"	21215
J. W. Fransmather.....	2-24	4.25	14.18	9.93	Bulk.	"	21213
M. J. Johnson.....	2-24	3.60	12.75	9.15	"	"	21212

CHANUTE.

NAME OF DAIRYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
T. C. Briniger.....	2-4	3.20	12.35	9.15	Bulk.	No.	70533
Eugene Bush.....	2-4	5.80	15.26	9.46	Bottle.	"	70529
Charles Clatfelter.....	2-4	4.00	13.95	9.95	"	"	70530
Dunning Dairy Co.....	2-5	5.25	15.39	10.14	"	"	70537
Citti French Creamery Co.....	2-4	3.60	12.90	9.30	"	"	70532
W. A. Gemble.....	2-4	3.55	13.03	9.48	"	"	70531
A. S. Gordin.....	2-4	4.10	13.81	9.71	"	"	70528
J. W. Magee.....	2-4	4.00	13.26	9.26	"	"	70534
A. A. McClovey.....	2-4	3.70	13.56	9.86	"	"	70527
J. A. Woosley.....	2-4	3.40	12.69	9.29	Bottle.	"	70536
<i>Cream:</i>							
Dunning Dairy Co., (said to be A. G. Nelson's).....	2-5	20.43			Bottle.	No.	70538
J. W. Magee.....	2-4	26.50			"	"	70535

CHERRYVALE.

<i>Milk:</i>							
H. D. Shinn.....	2-8	3.00	12.37	9.57	Bottle.	Yes.	70539
W. W. Taylor.....	2-8	3.60	12.83	9.23	"	No.	70542
C. M. Woolsey.....	2-8	3.50	13.16	9.66	"	"	70540
<i>Cream:</i>							
C. M. Woolsey.....	2-8	25.07			Bottle.	No.*	70541

* Heavy sediment.

CLAY CENTER.

<i>Milk:</i>							
A. Brenner.....	2-20	4.00	13.24	9.24	Bottle.	No.	21210
A. T. Craig.....	2-19	3.60	13.09	9.49	"	"	21204
W. J. Finley (W. L. Glidden, retailer).....	2-20	4.70	14.07	9.37	"	"	21211
Mrs. J. L. McCargar.....	2-20	3.60	13.21	9.61	Bulk.	"	21208
S. S. Smith.....	2-20	3.85	13.64	9.79	Bottle.	"	21209

COFFEYVILLE.

<i>Milk:</i>							
Peter Miller.....	1-18	4.50			Bottle.	No.	70513
T. F. McNulty.....	1-18	4.30			Bulk.	"	70516
A. G. Powell.....	1-18	5.30			Bottle.	"	70511
O. B. Reits.....	1-18	4.80			"	"	70510
Fred D. Sprecher (Sanitary Ice Cream and Dairy Co.).....	1-18	4.80			Bottle.	"	70515
W. A. Walborn.....	1-18	4.50			"	"	70506
J. A. Warren.....	1-18	4.60			"	"	70508
<i>Cream:</i>							
Ice Cream Depot.....	1-18	30.6			Bottle.	No.	70509
Peter Miller.....	1-18	25.0			"	"	70514
A. G. Powell.....	1-18	19.2			"	"	70512
W. A. Walbun.....	1-18	21.0			"	"	70507

COLUMBUS.

<i>Milk:</i>							
Msud Blincoe.....	2-10	4.00	12.65	8.65	Bulk.	No.	70546
Del Davis.....	2-10	3.60	12.52	8.92	"	"	70544
H. C. Pointer.....	2-10	3.70	12.16	8.46	"	Yes.*	70545
J. K. Stauffer.....	2-10	3.70	12.30	8.60	"	Yes.*	70547

* Dirt.

CONCORDIA.

<i>Milk:</i>							
W. H. Beatty.....	2-13	3.25	12.40	9.05	Bottle.	No.	21190
Cartney & Co.....	2-13	3.70	13.07	9.37	"	"	21191
J. W. Davis & Son*.....	2-13					Yes.†	21199
C. J. Driscoll (sample broken).....	2-13				Bottle.	No.	21195
H. L. Progger.....	2-13	3.30	13.03	9.73	"	"	21194
Fred P. Sleiderer.....	2-13	3.60	12.86	9.26	"	"	21198
Sunflower Creamery*.....	2-12				Bulk.	Yes.†	21187
Sunflower Creamery.....	2-12	3.70	13.29	9.59	Bottle.	Yes.†	21188
Theo. Taylor.....	2-13	3.40	13.13	9.73	Bulk.	No.	21192
Theo. Taylor.....	2-13	2.20	11.64	9.44	Bottle.	Yes.	21200
Joe Thyfault.....	2-13	4.10	12.95	8.85	"	Yes.†	21193
E. Young.....	2-13	3.35	12.05	8.79	"	No.	21196
<i>Cream:</i>							
Sunflower Creamery.....	2-12	49.00			Bulk.	No.	21189
E. Young.....	2-13	39.00			Bottle.	"	21197

* Taken for sediment test only.

† Dirt.

DODGE CITY.

NAME OF DAIRYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
Moncrief Dairy.....	2-23	3.80	13.32	9.52	Bottle.	No.	91165
Moncrief Dairy.....	2-23	3.40	12.77	9.37	"	"	91166
Simpson & Ballou.....	2-23	3.40	12.15	8.75	"	"	91160
John Stiggins.....	2-23	3.80	13.22	9.42	"	"	91161
John Stiggins.....	2-23	4.00	13.07	9.07	"	"	91164
J. C. Trent.....	2-23	3.00	12.36	9.36	"	Yes.	91162
J. C. Trent.....	2-23	5.55	14.71	9.16	Bulk.	No.	91163

EMPORIA.

<i>Milk:</i>							
N. Brown.....	1-15	4.20			Bulk.	No.	80499
W. B. Clelland.....	1-15	3.70			Bottle.	"	80504
W. F. Hughey.....	1-15	2.60	11.80	9.20	Bulk.	Yes.	80497
Phillip Lowesby.....	1-15	3.80			Bottle.	No.	80502
Phillip Lowesby.....	1-15	3.70			"	"	80503
F. B. Mauk.....	1-15	3.60			"	"	80496
L. H. Postman.....	1-15	4.60			"	"	80507
G. H. Randolph.....	1-15	3.80			"	"	80500
F. H. Ritchie.....	1-15	5.20			Bulk.	"	80506
F. H. Ritchie.....	1-15	4.30			Bottle.	"	80505
W. J. Smith.....	1-15	3.00	11.65	8.65	"	Yes.	80498
A. V. Wedink.....	1-15	4.20			"	No.	80501

EUREKA.

<i>Milk:</i>							
F. H. Clark.....	10-5	3.85	13.11	9.26	Bottle.	No.	70421

FORT SCOTT.

<i>Milk:</i>							
L. A. Burge.....	1-8	4.20			Bulk.	No.	80476
City Dairy Co. (night).....	1-8	5.60			"	"	80469
City Dairy Co. (morning).....	1-8	3.60	12.45	8.85	"	"	80470
W. Cummings.....	1-8	4.10			"	"	80474
W. Cummings.....	1-8	4.00			"	"	80475
M. F. Davis.....	1-8	3.30	13.05	9.75	"	"	80477
Ross Hegdon.....	1-8	4.00			"	"	80473
H. Kritchener.....	1-8	3.70			"	"	80471
W. F. Nangle.....	1-8	5.80			"	"	80472

FRONTENAC.

<i>Milk:</i>							
Orley Wade.....	2-9	4.60	13.61	9.01	Bottle.	Yes.*	70543

* Dirt.

GALENA.

<i>Milk:</i>							
T. W. Bayne.....	2-16	4.20	13.82	9.62	Bottle.	No.	70551
J. N. Gandy.....	2-16	3.20	11.28	8.05	"	Yes.	70549
C. A. Waddell.....	2-16	3.45	12.07	8.62	"	No.	70552
<i>Cream:</i>							
J. N. Gandy.....	2-16	32.83			Bottle.	No.	70550
C. A. Waddell.....	2-16	15.40			"	Yes.	70553

GREAT BEND.

<i>Milk:</i>							
Bartholomew.....	2-24	3.30	13.11	9.81	Bottle.	No.	91169
Bartholomew.....	2-24	3.30	12.97	9.67	"	"	91170
Bartholomew.....	2-24	3.70	13.35	9.68	"	"	91171
N. L. Duchesne.....	2-24	5.00	14.83	9.83	"	"	91168
N. L. Duchesne.....	2-24	4.00	14.35	10.35	"	"	91172
George Hunt & Co.....	2-24	3.40	13.49	10.09	"	"	91173
Stimpson & Ballou.....	2-23	3.30	12.25	8.95	"	"	91167

HAYS CITY.

NAME OF DIARYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
E. Blender.....	10-23	4.30	13.22	8.92	.....	No.	60090
H. King.....	10-23	3.60	12.86	9.26	.....	"	60089
Mrs. Anna Pfannisteal.....	10-23	5.55	14.84	9.29	.....	"	60087
George V. Starr.....	10-23	3.35	12.36	9.01	.....	"	60091
Roy Thomas.....	10-23	4.20	12.98	8.78	.....	"	60088
A. O. Woolridge.....	10-23	6.00	15.50	9.50	.....	"	60092

HERINGTON.

<i>Milk:</i>							
George Hadlock.....	2-11	2.95	12.05	9.10	Bottle.	Yes.	21180
Mott & Seaborn.....	2-11	.....	11.06	.....	"	Yes.*	21182
Ed Munsell.....	2-11	3.80	13.81	10.01	"	No.	21178
A. Smith.....	2-11	3.85	11.78	7.93	Bulk.	Yes.	21179
Emil Utech.....	2-11	3.95	13.75	9.80	Bottle.	No.	21184
<i>Cream:</i>							
George Hadlock.....	2-11	36.79	.....	.....	Bottle.	No.	21181
Mott & Seaborn.....	2-11	39.07	.....	.....	"	"	21183
E. Utech.....	?-11	55.90	.....	.....	"	"	21185

* Dirt.

HUTCHINSON.

<i>Milk:</i>							
F. E. Coughenour.....	1-22	3.00	12.50	9.50	Bottle.	Yes.	91014
F. E. Coughenour.....	1-22	2.80	12.52	9.72	"	"	91015
C. W. Danford.....	1-22	4.60	.....	.....	"	No.	91009
F. H. Ebersole.....	1-22	4.00	.....	.....	"	"	91016
Preston Graybill.....	1-22	4.80	.....	.....	"	"	91005
Preston Graybill.....	1-22	4.70	.....	.....	"	"	91006
Preston Graybill.....	1-22	1.60	12.10	10.50	Bulk.	Yes.	91007
J. M. Harrison.....	1-22	5.10	.....	.....	Bottle.	No.	91011
S. Jensen:							
George Cook.....	1-23	4.40	.....	.....	Bulk.	"	91039
Frank Halland.....	1-23	4.50	.....	.....	"	"	91024
Frank Halland.....	1-23	4.10	.....	.....	"	"	91025
J. A. H. Martin.....	1-23	5.10	.....	.....	"	"	91030
A. Walsten.....	1-23	4.60	.....	.....	"	"	91036
W. Wright.....	1-23	3.90	.....	.....	"	"	91033
S. Jensen.....	1-21	4.10	.....	.....	Bottle.	"	90997
S. Jensen.....	1-21	3.80	.....	.....	"	"	90996
S. Jensen.....	1-21	4.00	.....	.....	"	"	90994
John Kellerman.....	1-21	4.20	.....	.....	"	"	90993
S. Jensen.....	1-21	3.80	.....	.....	"	"	90995
S. C. Kessler:							
Boyd Hammond.....	1-23	4.20	.....	.....	Bulk.	"	91042
Boyd Hammond.....	1-23	4.00	.....	.....	"	"	91041
A. J. Hendershot.....	1-23	4.40	.....	.....	"	"	91053
A. J. Hendershot.....	1-23	4.60	.....	.....	"	"	91050
J. O. McNew.....	1-23	4.40	.....	.....	"	"	91047
S. C. Kessler.....	1-21	4.10	.....	.....	Bottle.	"	91003
S. C. Kessler.....	1-21	4.20	.....	.....	"	"	91004
A. T. Maupin.....	1-21	3.09	13.00	10.00	Bulk.	Yes.	91020
D. McKeever.....	1-21	5.20	.....	.....	Bottle.	No.	91000
D. McKeever.....	1-21	5.50	.....	.....	"	"	90999
D. McKeever.....	1-21	5.20	.....	.....	"	"	90998
E. E. Menkimen.....	1-22	4.20	.....	.....	"	"	91013
Clara Whinnery.....	1-22	3.80	.....	.....	"	"	91021
H. Miller.....	1-22	4.40	.....	.....	"	"	91018
H. Miller (sample broken).....	1-22	.....	.....	.....	"	"	91019
Ben Myers.....	1-21	4.00	.....	.....	"	"	91001
William Newlin.....	1-22	4.40	.....	.....	"	"	91017
Mrs. R. Rathburn.....	1-22	4.10	.....	.....	"	"	91022
James Madden.....	1-22	3.00	13.14	10.14	Bulk.	Yes.	91012
D. E. Torker.....	1-21	3.70	.....	.....	Bottle.	No.	90992
D. E. Torker.....	1-21	3.90	.....	.....	"	"	90991
C. and W. H. Williamson.....	1-21	5.20	.....	.....	"	"	91002
<i>Cream:</i>							
C. W. Danford.....	1-22	28.90	.....	.....	Bottle.	No.	91010
Preston Graybill.....	1-22	23.20	.....	.....	"	"	91008

HOLTON.

NAME OF DAIRYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
R. B. Francis.....	2-11	3.90	12.95	9.05	.....	No.	60209
John Stephenson.....	2-11	2.35	10.40	8.05	.....	Yes.	60208
W. O. Nauheim (J. Davis Dairy Co.).....	2-11	2.75	12.08	9.33	.....	"	60210

HORTON.

<i>Milk:</i>							
M. C. Balen.....	2-12	3.90	13.51	9.61	.....	No.	60211
S. O. Blakeley.....	2-12	3.50	12.73	9.23	.....	"	60215
W. M. Hunsaker.....	2-12	3.50	12.42	8.92	.....	"	60213
L. T. Lorey.....	2-12	3.50	12.66	9.16	.....	"	60212
J. W. Parkinson.....	2-12	4.40	13.48	9.08	.....	"	60214

INDEPENDENCE.

<i>Milk:</i>							
Loyd T. Banks.....	2-8	4.40	13.98	9.58	Bottle.	No.	91069
Loyd T. Banks.....	2-8	4.40	13.14z	8.74	"	"	91068
A. W. Bloom.....	2-8	4.65	.....	.....	"	"	91065
F. H. Cunningham & Son.....	2-8	3.25	12.43	9.18	Bulk.	"	91066
F. H. Cunningham & Son.....	2-8	2.85	11.93	9.08	"	Yes.	91067
A. R. Featherngill.....	2-8	4.35	14.07	9.72	Bottle.	No.	91077
William J. Farley.....	2-8	3.80	13.37	9.57	"	"	91076
John Lang.....	2-8	3.20	12.35	9.15	Bulk.	"	91070
Ed Owens.....	2-8	3.55	12.20	8.65	Bottle.	"	91078
L. C. Roberts.....	2-8	4.45	13.70	9.25	"	"	91071
P. L. Snyder.....	2-8	5.00	14.21	9.21	"	"	91074
Wylie & Sewall.....	2-8	3.00	11.27	8.27	"	Yes.	91072
Wylie & Sewall.....	2-8	3.00	11.17	8.17	"	"	91073

IOLA.

<i>Milk:</i>							
D. C. Chambers, Rock Creek Dairy.....	2-3	3.50	13.40	9.90	Bottle.	No.	70521
V. F. Groves.....	2-3	4.70	14.10	9.40	"	"	70517
Charles Harklear.....	2-3	4.30	13.60	9.30	"	"	70523
W. E. Murphy.....	2-3	4.30	14.20	9.90	"	"	70520
A. Bartlett.....	2-3	3.30	12.22	8.92	"	"	70524
F. L. Parks.....	2-3	5.00	14.74	9.74	"	"	70525
J. S. Taylor.....	2-3	6.00	15.59	9.59	"	"	70526
<i>Cream:</i>							
D. C. Chambers.....	2-3	24.40	.....	.....	Bottle.	No.	70522
V. F. Grove.....	2-3	35.00	.....	.....	"	"	70518
W. E. Murphy.....	2-3	24.00	.....	.....	"	"	70519

JUNCTION CITY.

<i>Milk:</i>							
Bartel Hotel (from Mrs. Jennings).....	2-4	4.20	12.89	9.69	Bulk.	No.	21136
Fred Brumm.....	2-4	4.25	13.97	9.72	"	"	21140
Fred Brumm.....	2-4	3.80	13.47	9.67	Bottle.	"	21139
Hygienic Dairy Co.....	2-4	4.15	13.09	8.94	"	"	21128
Hygienic Dairy Co.....	2-4	3.80	13.13	9.33	"	"	21133
Hygienic Dairy Co.....	2-4	3.70	13.03	9.33	Bulk.	"	21141
Hygienic Dairy Co.....	2-4	3.70	13.03	9.33	"	"	21142
E. Laster.....	2-4	4.50	14.02	9.52	"	"	21129
E. Laster.....	2-4	4.25	13.73	9.48	"	"	21130
E. Laster.....	2-4	3.40	12.66	9.26	"	"	21134
E. Laster.....	2-4	3.40	12.91	9.51	"	"	21134
F. B. Oliver.....	2-4	3.20	12.05	8.85	"	"	21131a
F. B. Oliver.....	2-4	3.25	11.62	8.36	"	Yes.	21131b
J. H. Pennell.....	2-4	3.85	13.14	9.29	"	No.	21137
M. L. Smoot.....	2-4	3.70	12.24	8.54	"	"	21138
R. Welsh.....	2-4	3.80	12.80	9.00	"	"	21132
<i>Cream:</i>							
Hygienic Dairy Co.....	2-4	23.90	.....	.....	Bottle.	No.	21135

KANSAS CITY.

NAME OF DIARYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
H. L. Armentrout.....	1-12	3.00	12.23	9.23	.....	Yes.	60145
L. Ashner.....	1-11	3.60	.....	.....	.....	No.	60140
L. Ashner.....	1-15	3.80	13.90	10.10	.....	"	60112
Ballard & Layton.....	1- 8	4.00	13.61	9.61	.....	"	60120
Ed Bennett (Walcott).....	1- 9	4.00	13.97	9.97	.....	"	60137
R. R. Breedlove.....	1-12	2.70	10.58	7.88	.....	Yes.	60157
H. B. Browning (Linwood).....	1-15	3.40	12.24	8.84	.....	No.	60128
H. B. Browning (Linwood).....	1- 9	3.60	13.76	10.16	.....	"	60129
F. A. Caduff.....	1- 6	3.30	11.94	8.64	.....	"	60107
Chinery & Booth.....	1- 8	3.60	12.08	8.48	.....	"	60118
Chinery & Booth.....	1-11	4.20	.....	.....	.....	"	60141
R. Curran.....	1-11	4.80	.....	.....	.....	"	60159
C. P. Davis (Lawrence).....	1- 9	3.50	12.12	8.62	.....	"	60122
J. W. Edwards.....	1- 7	4.10	.....	.....	.....	"	60116
W. Forgie & Son.....	1- 8	4.80	14.58	9.78	.....	"	60125
J. Roy Gnatney.....	1-12	4.90	.....	.....	.....	"	60155
Mrs. W. A. Guy.....	1-12	3.25	12.81	9.56	.....	"	60152
J. Henry.....	1-11	3.25	12.01	8.76	.....	"	60142
J. Henry.....	1-11	3.40	13.08	9.68	.....	"	60143
M. Hurta.....	1-12	4.20	.....	.....	.....	"	60154
O. F. Johnson (Bethel).....	1- 9	3.80	13.98	10.18	.....	"	60136
R. Kepler.....	1- 7	3.20	11.21	8.01	.....	Yes.	60114
W. D. Kerr.....	1- 7	4.10	13.19	9.09	.....	No.	60113
J. Meulemaster.....	1-12	3.60	.....	.....	.....	"	60150
A. J. Milleret.....	1-12	3.50	12.85	9.33	.....	"	60153
Meyers Sanitary Milk Co.....	1- 8	3.80	12.44	8.64	Bottle.	"	60119
Meyers Sanitary Milk Co.....	1- 7	3.60	12.61	9.01	"	"	60110
Sam Morrell.....	1- 8	3.20	11.23	8.03	Bulk.	Yes.	60126
S. J. Moser.....	1-12	4.00	.....	.....	.....	No.	60151
B. L. Muehle.....	1- 8	3.20	11.43	8.23	.....	Yes.	60123
B. L. Muehle.....	1- 8	3.40	11.99	8.59	.....	No.	60124
F. Olson, (Rosedale), sample broken.....	1- 6	.....	.....	.....	.....	"	60106
G. H. Olson.....	1- 6	3.50	13.42	9.92	.....	"	60108
Reed Bros.....	1-12	3.70	.....	.....	.....	"	60148
L. A. Reed (Bethel).....	1- 9	4.90	13.76	8.86	.....	"	60130
L. A. Reed (Bethel).....	1- 9	4.00	13.63	9.63	.....	"	60131
L. A. Reed (Bethel).....	1- 9	4.60	13.63	9.03	.....	"	60132
L. A. Reed (Bethel).....	1- 9	3.70	13.14	9.44	.....	"	60133
L. A. Reed (Bethel).....	1- 9	3.80	13.25	9.45	.....	"	60134
L. A. Reed (Bethel).....	1- 9	3.40	13.04	9.64	.....	"	60135
C. W. Sargent.....	1- 7	3.30	12.72	9.42	.....	"	60111
J. Scalopeno.....	1- 6	3.80	12.52	8.70	Bottle.	"	60109
J. Scalopeno.....	1- 7	3.60	12.21	8.61	.....	"	60117
R. E. Seymour.....	1- 7	2.30	11.34	8.04	.....	Yes.	60115
A. B. Smith.....	1-12	3.80	.....	.....	.....	No.	60144
W. Whishe (Leavenworth).....	1- 9	3.60	12.38	8.78	.....	"	60128
J. L. Williams.....	1- 8	3.80	13.03	9.23	.....	"	60121
C. H. Wilton.....	1- 8	3.40	11.98	8.58	.....	"	60122
Joseph Wise.....	1-11	3.00	12.15	9.15	.....	Yes.	60147
A. Boyd.....	1-13	4.10	.....	.....	.....	No.	60164
H. T. Corson (Bethel).....	1-13	4.70	.....	.....	.....	"	60161
J. Engler.....	1-14	3.60	.....	.....	.....	"	60170
Inter-State Dairy.....	1-13	3.40	12.10	8.70	.....	"	60160
J. E. Johnson.....	1-13	3.70	.....	.....	.....	"	60165
W. J. Jones (Rosedale).....	1-13	3.70	.....	.....	.....	"	60159
H. Martin.....	1-14	3.90	.....	.....	.....	"	60169
J. H. McMahon.....	1-13	3.70	.....	.....	.....	"	60163
Palfer Bros.....	1-14	3.40	13.50	10.10	.....	"	60168
A. J. Roheback.....	1-13	3.90	.....	.....	.....	"	60162
C. A. Thomas.....	1-14	3.30	11.77	8.47	.....	"	60166
L. Van Mol.....	1-13	4.00	.....	.....	.....	"	60158
<i>Cream:</i>							
H. L. Armentrout.....	1-12	24.00	.....	.....	.....	No.	60146
Palfer Bros.....	1-14	22.00	.....	.....	.....	"	60167

LAWRENCE.

NAME OF DAIRYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
H. H. Brown	1-6	4.10	14.59	10.49	Bulk.	No.	90803
H. M. Channey	1-7	3.30	13.20	9.90	"	"	90828
H. M. Channey	1-7	3.80	12.80	9.00	Bottle.	"	90829
L. R. Clawson	1-6	3.80	11.87	8.07	"	Yes.	90816
L. R. Clawson	1-6	3.30	11.77	8.47	"	No.	90817
Roy Day	1-6	3.20	11.63	8.43	"	Yes.	90790
Roy Day	1-6	3.60	11.91	8.31	"	"	90792
John Fritzel	1-6	3.70	11.30	7.60	"	"	90810
John Fritzel	1-6	3.60	11.15	7.55	"	"	90811
H. J. Fritzel	1-6	4.00	13.20	9.20	"	No.	90801
H. J. Fritzel	1-6	4.00	12.90	8.92	"	"	90800
E. T. Gardner	1-6	3.25	12.03	8.78	Bulk.	"	90796
E. T. Gardner	1-6	3.25	13.01	9.76	Bottle.	"	90794
E. T. Gardner	1-6	3.50	11.96	8.46	"	"	90793
W. J. Harding	1-6	3.60	11.92	8.32	"	Yes.	90815
W. J. Harding	1-6	5.20			"	No.	90814
A. R. Kagi	1-7	4.40	14.23	9.83	Bulk.	"	90830
A. R. Kagi	1-7	4.80	15.10	10.30	"	"	90831
W. L. Kiefer	1-6	4.20	13.32	9.12	Bottle.	"	90798
W. L. Kiefer (sample broken)	1-6				"	"	90799
W. W. Kluss	1-6	4.60	13.75	9.15	"	"	90808
W. W. Kluss	1-6	4.20	13.16	8.96	"	"	90807
W. H. Kelly	1-7	3.90	13.18	9.28	Bulk.	"	90820
Herbert W. Olmsted	1-7	3.90	13.47	9.57	Bottle.	"	90833
Herbert W. Olmsted (skim milk)	1-7	0.80	10.68	9.88	"	"	90834
Reynolds & Son	1-6	4.00	12.37	8.37	Bottle.	Yes.	90804
Reynolds & Son	1-6	3.80	13.02	9.22	"	No.	90805
J. J. Smith	1-7	4.40	14.26	9.86	"	"	90826
J. A. Winchell	1-7	4.00	13.05	9.05	"	"	90822
J. A. Winchell	1-7	4.60	12.66	8.06	"	Yes.	90823
<i>Cream:</i>							
L. R. Clawson	1-6	25.00				No.	90818
Roy Day	1-6	20.00			Bottle.	"	90791
H. J. Fritzel	1-6	19.60			"	"	90802
John Fritzel (buys from Geo. Derby)	1-6	20.80			"	"	90812
W. J. Harding	1-6	20.40			Bottle.	"	90813
W. L. Kiefer	1-6	20.40			"	"	90797
W. W. Kleiss	1-6	19.60			"	"	90809
Reynolds & Son	1-6	17.60			"	Yes.	90806
J. J. Smith	1-7	20.20			"	No.	90827
E. T. Gardner	1-6	27.20			"	"	90795

LEAVENWORTH.

<i>Milk:</i>							
M. A. Balwin	1-9	3.10	12.32	9.22	Bottle.	Yes.	70489
John Bosch	1-8	4.40			Bulk.	No.	70485
J. E. Byrd	1-8	3.40	12.91	9.51	Bottle.	"	70482
M. Ellis	1-8	4.40			"	"	70478
M. N. Enright	1-8	4.00			Bulk.	"	70483
Frey & Hedges	1-8	4.40			Bottle.	"	70481
W. Goldman	1-9	3.60			"	"	70491
W. Goldman	1-9	3.10	11.81	8.71	Bulk.	Yes.	70492
Julius Hoppe	1-8	3.50			Bottle.	No.	70479
A. L. Kirk	1-9	4.20			Bulk.	"	70486
Leavenworth Creamery Co.	1-8	4.60	13.13	8.53	Bottle.	"	70476
Leavenworth Creamery Co.	1-8	3.60			"	"	70476a
S. Levenes Dairy	1-8	4.30			Bottle.	"	70477
J. R. Morehead	1-9	3.40	13.31	9.91	"	"	70487
Ernest Raymond	1-9	4.20			Bulk.	"	70490
A. Ryherd	1-8	3.40	12.00	8.60	Bottle.	"	70484
W. C. Saunders	1-8	4.20			"	"	70480
<i>Cream:</i>							
W. Goldman	1-9	21.00			Bottle.	No.	70493
J. R. Morehead Dairy Co.	1-9	16.40			"	Yes.	70488

MANHATTAN.

NAME OF DIARYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
F. C. Abbott.....	2-6	4.30	14.10	9.80	Bulk.	No.	21161
F. C. Abbott.....	2-6	4.20	14.35	10.15	"	"	21162
F. S. Allen.....	2-5	3.80	13.53	9.73	Bottle.	"	21147
George R. Campbell.....	2-5	4.10	13.52	9.42	"	"	21145
George R. Campbell*.....	2-9	.....	.....	.....	Bulk.	"	21163
Harvey Flecker.....	2-5	3.50	12.62	9.12	Bottle.	"	21154
T. D. Hannagan.....	2-5	3.00	11.45	8.45	Bulk.	Yes.	21152
S. M. Harris.....	2-5	4.80	13.35	8.55	Bottle.	Yes.†	21155
A. N. Jones.....	2-6	3.50	13.01	9.51	"	No.	21157
A. Kemnits.....	2-5	3.45	13.07	9.62	"	"	21150
Manhattan Pure Milk Co.....	2-6	3.60	13.17	9.57	"	"	21158
Manhattan Pure Milk Co.....	2-6	4.15	13.29	9.14	"	"	21159
Manhattan Pure Milk Co.*.....	2-6	.....	.....	.....	Bulk.	"	21160
George Rehfield.....	2-5	4.15	13.94	9.79	"	"	21148
Will Rosencutter.....	2-5	3.90	13.60	9.70	"	"	21146
J. T. Thatcher & Son.....	2-5	3.60	14.16	10.56	Bottle.	"	21149
<i>Cream:</i>							
T. D. Hannagan.....	2-5	26.48	.....	.....	Bottle.	No.	21153
A. Kemnits.....	2-5	37.33	.....	.....	"	"	21151

* Sample taken for sediment test.

† Dirt.

McPHERSON.

<i>Milk:</i>							
Archie Brown.....	2-19	3.55	12.94	9.39	Bulk.	No.	91150
C. E. Hoglund.....	2-19	3.40	12.20	8.80	Bottle.	"	91152
Gus Norlin.....	2-19	3.60	12.90	9.30	Bulk.	"	91151
L. W. Wolfe.....	2-19	4.40	13.80	9.40	Bottle.	"	91153

NEODESHA.

<i>Milk:</i>							
Cooper & Son.....	2-6	3.40	12.84	9.44	Bottle.	No.	91061
Purity Ice Cream Co.....	2-6	6.15	15.83	9.68	"	"	91064
Frank Smith.....	2-6	3.45	13.28	9.83	"	"	91063
J. W. Wilson.....	2-6	3.50	13.31	9.81	"	"	91058

NEWTON.

<i>Milk:</i>							
Holmes Bros.....	2-18	4.20	13.46	9.26	Bottle.	No.	91141
Holmes Bros.....	2-18	4.00	13.24	9.24	"	"	91144
Holmes Bros. (Gunn producer).....	2-18	3.00	11.22	8.22	"	Yes.	91143
Holmes Bros. (A. Sander, producer).....	2-18	3.60	12.69	9.09	Bulk.	No.	91140
Mitten & Bosworth.....	2-18	4.20	13.55	9.35	Bottle.	"	91145
F. M. Ogle.....	2-18	3.60	13.29	9.69	"	"	91142
O. H. Penner.....	2-18	3.85	13.40	9.55	"	"	91146
Bert Williamson.....	2-18	3.50	13.10	9.60	Bulk.	"	91139
Bert Williamson.....	2-18	5.25	14.20	8.95	"	"	91138

OLATHE.

<i>Milk:</i>							
G. W. Brangen.....	2-6	3.25	12.86	9.61	.....	No.	60195
H. Jackson.....	2-6	6.60	16.12	9.52	.....	"	60192
W. W. Lindsley.....	2-6	4.05	13.67	9.62	.....	"	60190
J. F. Mahafie.....	2-6	3.05	12.47	9.42	.....	Yes.	60196
A. J. Meyer.....	2-6	3.35	12.80	9.45	.....	No.	60194
O. J. Scott.....	2-6	4.50	14.44	9.94	.....	"	60189
Steiner & Son.....	2-6	3.75	12.92	9.17	.....	"	60191
S. St. Johns.....	2-6	3.60	12.96	9.36	.....	"	60193

OSAGE CITY.

<i>Milk:</i>							
A. Douglas.....	2-17	3.50	13.06	9.55	Bottle.	No.	91136
Osage City Sanitary Dairy.....	2-17	3.75	13.02	9.27	"	"	91135½

OSAWATOMIE.

NAME OF DAIRYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
Mary Bundy.....	2-4	3.60	12.86	9.26	.....	No.	60173
J. E. Calvin.....	2-4	3.90	13.08	9.18	.....	"	60174
J. A. Finanghty.....	2-4	3.50	12.91	9.41	.....	"	60176
J. A. Jackson.....	2-4	4.10	13.63	9.53	.....	"	60172
J. H. Massey.....	2-3	8.20	17.22	9.02	Bulk.	"	60171
J. H. Massey.....	2-4	3.70	12.45	8.75	.....	"	60175

OTTAWA.

<i>Milk:</i>							
E. E. Hann.....	2-16	3.60	12.99	9.39	Bottle.	No.	91130
Herron Bros.....	2-16	4.25	13.26	9.01	"	"	91128
S. P. Lawson.....	2-15	3.65	13.35	9.70	"	"	91126
S. P. Lawson.....	2-15	3.80	13.34	9.54	"	"	91127
R. G. Lawton.....	2-16	3.95	12.34	8.39	"	"	91133
F. C. Preston.....	2-16	3.40	12.57	9.17	"	"	91131
F. C. Preston.....	2-16	3.40	12.44	9.04	"	"	91132
E. H. Tipton.....	2-16	4.40	13.73	9.33	"	"	91134
E. H. Tipton.....	2-16	6.30	16.82	10.52	"	"	91135

PAOLA.

<i>Milk:</i>							
W. R. Buck.....	2-5	4.00	14.15	10.15	.....	No.	60184
Paola Creamery.....	2-5	3.20	12.03	8.83	.....	"	60181
Paola Creamery.....	2-5	3.20	12.43	9.23	.....	"	60182
W. H. Shipp.....	2-5	4.00	13.92	9.92	.....	"	60183
W. H. Shipp.....	2-4	4.00	13.35	9.35	.....	"	60180
J. A. Strausbaugh.....	2-5	4.20	13.76	9.56	.....	"	60185
W. A. Taylor.....	2-5	2.55	8.82	6.27	.....	Yes.	60186

PARSONS.

<i>Milk:</i>							
C. J. Blackburn.....	1-6	7.00	17.32	10.32	Bottle.	No.	80456
R. F. Blackburn.....	1-6	4.30	13.60	9.30	Bulk.	"	80450
R. F. Blackburn (sample broken).....	1-6	.....	.....	.....	Bottle.	"	80451
M. Coffey.....	1-6	4.30	13.08	8.78	Bulk.	"	80462
W. L. Duball & Son.....	1-6	9.40	.....	.....	"	"	80463
M. A. Hatchell.....	1-6	4.60	14.73	10.73	Bottle.	"	80459
A. F. Hornback.....	1-6	4.00	13.89	9.89	Bulk.	"	80461
J. H. Mosher.....	1-6	6.40	15.94	9.54	Bottle.	"	80458
T. J. O'Connor.....	1-6	4.20	13.14	8.94	Bulk.	"	80457
E. A. Rumbel.....	1-6	4.20	14.74	10.54	"	"	80460
George Van Hoorebeke.....	1-6	4.60	13.55	8.95	"	"	80452
C. F. Willson (sample broken).....	1-6	.....	.....	.....	"	"	80453
R. F. Wilson.....	1-6	4.00	13.29	9.29	"	"	80454
R. F. Wilson.....	1-6	5.00	14.64	9.64	"	"	80453
R. F. Blackburn.....	1-7	4.60	.....	.....	Bottle.	"	80467
George Tutcher.....	1-7	4.70	.....	.....	.....	"	80466
George Tutcher.....	1-7	4.20	.....	.....	.....	"	80465
George Tutcher.....	1-7	4.40	.....	.....	.....	"	80464
W. F. Heileman.....	1-7	5.40	.....	.....	Bottle.	"	80468

PITTSBURG.

<i>Milk:</i>							
J. H. Ahrens.....	1-12	3.80	.....	.....	Bulk.	No.	80495
L. C. Endicott.....	1-12	2.90	10.82	7.92	Bottle.	Yes.	80491
L. D. Gates.....	1-12	3.60	.....	.....	Bulk.	No.	80490
L. D. Gates.....	1-12	3.80	.....	.....	Bottle.	"	80479
C. C. Jackson.....	1-12	4.00	.....	.....	Bulk.	"	80494
Henry Jacobs.....	1-12	3.20	12.15	8.95	Bottle.	Yes.	80489
O. M. Koopman.....	1-12	5.40	.....	.....	"	No.	80488
R. W. McFall.....	1-12	3.80	.....	.....	"	"	80480
Lawrence Radell.....	1-22	4.20	.....	.....	Bulk.	"	80493
George Radell.....	1-12	4.80	.....	.....	"	"	80492
H. Schmackenberg.....	1-12	4.00	.....	.....	Bottle.	"	80484
A. F. Seimer.....	1-12	3.40	12.97	9.57	"	"	80481
Henry Tolle.....	1-12	4.20	.....	.....	"	"	80486
W. F. Widner.....	1-12	3.80	.....	.....	"	"	80482
E. P. Wilson (Marsh Creamery).....	1-12	3.40	12.72	9.32	"	"	80478
<i>Cream:</i>							
Henry Felle.....	1-12	14.00	.....	.....	Bottle.	Yes.	80487
H. Schmackenberg*.....	1-12	.....	.....	.....	"	No.	80485
W. F. Widner.....	1-12	19.80	.....	.....	"	"	80483

* Sample broken.

PRATT.

NAME OF DIARYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
J. J. Grier Hotel Co. (J. W. Furney, producer) . . .	2-20	3.85	13.35	9.50	Bulk.	No.	91159
Joe Hensel	2-20	2.80	10.94	8.14	"	Yes.	91154
Joe Hensel	2-20	3.20	11.05	7.85	"	"	91155
George B. Read	2-20	2.80	11.15	8.35	Bottle.	"	91156
George B. Read	2-20	3.20	12.38	9.18	"	"	91157
George B. Read	2-20	3.30	11.95	8.63	"	No.	91158

ROSEDALE.

<i>Milk:</i>							
S. F. Brown	2-8	3.40	13.22	9.82		No.	60197
Hahner	2-9	3.45	12.91	9.46		"	60204
William Hampton	2-8	3.70	12.85	9.15		"	60203
J. P. Jenson	2-9	3.60	13.20	9.60		"	60206
Johnson Bros	2-9	3.95	13.15	9.20		"	60201
J. Meyer	2-8	3.65	13.35	9.70		"	60202
Hans Prend	2-8	3.70	13.60	9.90		"	60200
V. W. Puhr	2-8	2.60	12.47	9.87		Yes.	60199
Yulich Bros	2-9	4.05	13.51	9.46		No.	60205
F. Zarda & Son	2-8	3.20	13.08	9.88		"	60198
J. Lund	2-9	6.05	15.23	9.18		"	60207
Hohner Bros	2-9	3.20	13.14	9.94		Yes.	60204b

SALINA.

<i>Milk:</i>							
C. S. Carruthers	1-6	3.50	11.73	8.23	Bottle.	Yes.	21041
C. S. Carruthers	1-7	4.20	13.33	9.13	Bulk.	No.	21053
S. De Priest	1-6	3.60	13.44	9.84	Bottle.	"	21047
A. H. Garinger	1-7	4.10	13.62	9.52	"	"	21050
A. W. Gay	1-6	3.30	12.37	9.07	"	"	21040
D. V. Green	1-7	4.60	13.88	9.28	"	"	21051
Albert Johnson	1-6	4.10	13.57	9.47	"	"	21045
Albert Johnson	1-6	4.40	13.62	9.22	"	"	21044
John Koll	1-6	4.10	13.02	8.92	"	"	21046
E. J. Lockwood	1-6	3.70	12.79	9.09	"	"	21049
J. Massey	1-7	4.60	14.22	9.62	"	"	21052
Swan Nelson (lot of dirt)	1-6	3.90	12.77	8.87	"	Yes.	21042
W. H. Penix	1-7	4.00	13.31	9.31	Bulk.	No.	21055
W. H. Penix	1-7	4.70	14.19	9.49	"	"	21054
Salina Sanitary Milk Co.	1-6	3.80	11.90	8.10	Bottle.	Yes.	21048
Silver Springs Dairy	1-7	4.60	14.60	10.00	"	No.	21056
H. L. Struble	1-6	4.80	13.81	9.01	"	"	21043

TOPEKA.

<i>Milk:</i>							
M. Alfrey	1-11	3.80			Bottle.	No.	90857
Dornwood Dairy	1-11	5.10			"	"	90859
Fritton Bros	1-9	4.00			"	"	90849
Hughes & Smith	1-12	3.40	12.05	8.65	"	"	90879
G. C. Gray	1-9	3.40	12.17	8.77	"	"	90839
Kaw Valley Dairy	1-9	3.50	12.00	8.50	"	"	90848
G. E. Marken	1-12	4.00			"	"	90878
Fred Miller	1-12	4.00			"	"	90877
H. B. Miller	1-11	4.40			"	"	90854
H. B. Miller	1-11	4.50			"	"	90855
W. E. Miller	1-12	4.30			"	"	90880
R. C. Obrecht	1-12	3.70			"	"	90882
Theodore H. Oden	1-11	3.70			"	"	90852
George Pugh	1-12	3.25	11.75	8.50	"	"	90883
T. E. Porter	1-12	4.20			"	"	90884
A. A. Rogers	1-12	4.00			"	"	90874
A. A. Rogers	1-12	3.00	11.43	8.43	"	Yes.	90875
Paul Rosendeutcher	1-9	4.80			"	No.	90842
Topeka Pure Milk Co.	1-9	4.00			"	"	90847
Frank Wilson	1-12	3.60			"	"	90881
Zinn Brothers	1-11	4.50			"	"	90850
Zinn Brothers	1-11	4.40			"	"	90851
L. L. Bonnavits	1-13	3.50	12.18	8.68	"	"	90890
W. N. Bowman	1-16	3.80			"	"	90921
W. H. Coffman	1-13	3.20	13.04	9.74	Bulk.	"	90892
G. C. Gray	1-15	4.20			"	"	90919
E. V. Green	1-13	4.00			Bottle.	"	90886
Frank Halford	1-14	3.40	11.70	8.30	"	Yes.	90893
W. C. Hilton	1-15	3.60			"	No.	90900
W. H. Maxwell	1-15	4.80			"	"	90918

TOPEKA—CONCLUDED.

NAME OF DAIRY MAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
Paul Mead.....	1-14	3.60	.....	.....	Bottle.	No.	90894
Palmer & Son.....	1-13	4.40	.....	.....	"	"	90889
C. Reynolds.....	1-15	3.60	.....	.....	"	"	90917
F. J. Koller:							
E. A. Kessinger.....	1-19	4.80	.....	.....	Bulk.	"	90944
Ray Kimball.....	1-19	4.20	.....	.....	"	"	90949
W. Metzger.....	1-19	3.00	.....	.....	"	"	90952
R. R. Moyer.....	1-19	3.70	.....	.....	"	"	90946
R. Snodgrass.....	1-19	3.30	13.28	9.98	"	"	90955
O. F. Winner.....	1-19	3.60	.....	.....	"	"	90940
O. F. Winner.....	1-19	4.00	.....	.....	"	"	90941
Scott Bros. Depot:							
Fred Bliss.....	1-11	4.40	.....	.....	"	"	90864
W. H. Coffman.....	1- 9	2.65	11.15	8.50	Bottle.	Yes.	90844
W. H. Coffman.....	1-11	3.05	11.15	8.10	Bulk.	"	90963
W. H. Coffman.....	1-11	2.45	8.83	6.38	"	"	90862
W. H. Coffman (morning).....	1-15	2.60	11.92	9.32	"	"	90904
W. H. Coffman (night).....	1-15	2.60	11.05	8.45	"	"	90903
W. H. Coffman.....	1-13	2.80	9.51	6.51	"	"	90888
W. H. Coffman.....	1-13	2.60	9.19	6.59	"	"	90887
W. H. Coffman.....	1-20	2.70	9.36	6.66	"	"	90886
W. H. Coffman.....	1-20	3.25	10.91	7.76	"	"	90887
Robert Copp.....	1-11	4.40	.....	.....	"	No.	90872
Harry Eddy.....	1-11	3.30	12.50	9.20	"	"	90868
Harry Eddy.....	1-11	3.80	.....	.....	"	"	90867
Forbes.....	1- 9	3.90	.....	.....	Bottle.	"	90846
Haines.....	1-11	3.25	11.99	8.74	Bulk.	"	90870
Haines.....	1-11	3.80	.....	.....	"	"	90869
Hawk.....	1-11	3.30	11.79	8.49	"	"	90871
Nelson.....	1-11	4.20	.....	.....	"	"	90866
Nelson.....	1-11	3.70	.....	.....	"	"	90865
Nelson.....	1- 9	3.80	12.35	8.55	Bottle.	"	90845
Thomas.....	1-11	3.60	13.60	10.00	Bulk.	"	90861
Thomas.....	1-11	4.00	.....	.....	"	"	90860
Alfrey.....	1-15	3.50	12.85	9.35	"	"	90916
Bliss.....	1-15	3.20	11.96	8.76	"	"	90909
R. Copp.....	1-15	3.80	.....	.....	"	"	90905
M. Cooney (night).....	1-15	3.40	12.61	9.21	"	"	90907
H. Eddy (morning).....	1-15	4.00	.....	.....	"	"	90908
M. Cooney.....	1-15	3.90	.....	.....	"	"	90914
R. Haines (morning).....	1-15	3.40	12.61	9.21	"	"	90913
R. Haines (night), sample broken.....	1-15	.....	.....	.....	"	"	90912
Hawk.....	1-15	3.40	12.93	9.53	Bulk.	"	90911
M. L. Holloway.....	1-15	4.00	.....	.....	"	"	90899
M. L. Holloway.....	1-15	3.50	.....	.....	"	"	90898
M. L. Holloway.....	1-15	3.00	11.81	8.81	"	"	90897
E. Moore.....	1-15	3.40	12.84	9.44	"	"	90915
Nelson.....	1-15	4.00	.....	.....	"	"	90902
Thomas (night).....	1-15	2.85	11.01	8.16	"	Yes.	90910
Thomas (morning).....	1-15	3.20	13.98	10.78	"	"	90906
E. M. Washburn.....	1-15	3.50	13.68	10.16	"	No.	90895
E. M. Washburn.....	1-15	3.60	.....	.....	"	"	90896
Forbes.....	1-20	4.85	.....	.....	"	"	90965
Forbes.....	1-20	3.95	.....	.....	"	"	90966
Sutherin.....	1-20	3.80	.....	.....	"	"	90962
Sutherin.....	1-20	4.60	.....	.....	"	"	90961
H. B. Tiegreen.....	1- 9	4.40	.....	.....	Bottle.	"	90837
H. B. Tiegreen.....	1- 9	3.80	.....	.....	"	"	90838
H. B. Tiegreen:							
W. C. Burt (night).....	1-18	4.40	.....	.....	Bulk.	"	90935
W. C. Burt (morning).....	1-18	4.00	.....	.....	"	"	90934
Henry Cowles (night).....	1-18	3.80	.....	.....	"	"	90924
Henry Cowles (morning).....	1-18	3.80	.....	.....	"	"	90925
J. W. Israel (night).....	1-18	4.00	.....	.....	"	"	90933
J. W. Israel (morning).....	1-18	3.60	.....	.....	"	"	90933
W. W. McGlothlin (morning).....	1-18	3.60	.....	.....	"	"	90923
W. W. McGlothlin (night).....	1-18	3.40	.....	.....	"	"	90922
Fred Preibe.....	1-19	4.40	.....	.....	"	"	90958
Fred Preibe.....	1-19	4.10	.....	.....	"	"	90957
<i>Cream:</i>							
G. C. Gray (broken).....	1- 9	.....	.....	.....	Bottle.	No.	90840
G. C. Gray (Whipping Cream).....	1- 9	26.8	.....	.....	"	"	90841
H. B. Miller (Beatrice Creamery Co.).....	1-11	29.2	.....	.....	.....	"	90846
Paul Ronsdeutscher.....	1- 9	22.0	.....	.....	.....	"	90843
W. C. Hilton.....	1-15	20.0	.....	.....	.....	"	90901

WICHITA.

NAME OF DIARTEMAN.	Date of inspection, 1915.	P					
Milk:							
E. R. Allison	1-10	4 40				Bottle.	No. 21072
Charles Benton	1-10	4 00				"	" 21071
D. E. Berry	1-15	3 30	11 76	11 44		"	" 21118
Fred Biering	1-11	4 70				Bulk.	" 21084
J. F. Boots	1-11	5 20				Bottle.	" 21076
B. P. Boyle	1-14	4 20				Bulk.	" 21114
F. J. Boylen	1-13	4 20				Bottle.	" 21099
F. H. Brock	1-12	4 00				"	" 21095
W. H. Burche	1- 9	4 10				"	" 21088
J. D. Butler	1- 9	4 40				"	" 21081
B. B. Campbell, (Crescent Dairy)	1-10	4 00				Bulk.	" 21074
C. V. Campbell	1-12	4 20				Bottle.	" 21094
O. L. Challen	1- 9	3 40	12 21	9 81		"	" 21089
C. C. Chance	1-12	4 20				"	" 21090
M. D. Cline	1-12	3 70				"	" 21106
Perry Cline	1-14	3 00	11 77	8 77		"	Yes. 21109
J. R. Davis	1-10	4 40				"	No. 21089
W. F. Farris	1-11	4 10				"	" 21080
J. M. Flannigan	1-12	3 80				"	" 21092
P. T. Fuller	1-12	4 00				"	" 21097
Frank P. Garrison	1- 9	4 40				"	" 21068
M. Hall	1-13	4 30				"	" 21102
A. R. Hockett	1-10	4 00				"	" 21070
M. W. Holtclaw	1-11	3 00	12 03	11 03		Bulk.	Yes. 21063
Charles Jeffries	1-11	4 20				Bottle.	No. 21079
A. C. Jones	1-12	3 80				"	" 21067
Charles Kline	1-11	4 40				"	" 21062
J. N. Knight	1-13	5 00				Bulk.	" 21108
Ray Krack	1- 9	4 00				Bottle.	" 21066
P. T. Lane	1-11	3 80				"	" 21078
E. M. Leach	1-13	4 20				"	" 21100
L. E. Loxley (Valley Center)	1-14	3 90				Bulk.	" 21110
C. H. Mitchell	1-13	4 00				Bottle.	" 21107
J. W. Moore	1-14	3 40	13 65	10 25		"	" 21116
A. Noppen	1-12	4 20				"	" 21091
Jacob Orndorf	1-12	4 00				"	" 21093
A. A. Otto	1- 9	4 00				"	" 21063
Thomas Owens	1- 9	3 80				"	" 21057
E. Rosell	1-13	4 20				Bulk.	" 21105
A. T. Sayers	1-10	3 80				Bottle.	" 21073
K. L. Shank	1-11	4 50				"	" 21083
F. M. Shaver	1-14	2 40	10 89	8 49		"	Yes. 21115
John Shurkey	1-12	4 20				"	No. 21089
G. C. Snod	1-15	3 80				Bulk.	" 21119
J. H. Spencer	1- 9	3 00	12 40	9 40		Bottle.	Yes. 21080
R. T. Spinning	1-12	3 70				"	No. 21088
George Streiff	1- 9	4 00				"	" 21062
Louis Strielf	1- 9	3 90				"	" 21067
K. Suban	1- 9	4 00				Bulk.	" 21058
J. Taylor	1-13	3 25	12 60	9 35		Bottle.	" 21098
E. M. Turley	1-11	2 00				"	" 21077
Grace Turley	1-13	4 00				"	" 21104
R. L. Turner	1-12	3 00	11 56	8 56		Bulk.	Yes. 21086
J. Vithoven	1-10	4 00				"	No. 21096
John Welch	1-14	4 30				Bottle.	" 21112
F. F. Whitmore	1-11	3 90				"	" 21081
C. M. Wilderon	1-15	3 25	11 75	8 50		"	" 21117
E. Williamson	1-13	5 00				Bulk.	" 21101
O. G. Wherritt	1-13	4 30				Bottle.	" 21103
O. E. Wright	1-14	4 60				Bulk.	" 21113
R. E. Wright	1- 9	3 40	12 22	8 82		Bottle.	" 21084
Cream:							
B. B. Campbell (milk has been running low)	1-10	14 20				Bottle.	Yes. 21075
L. E. Loxley (Valley Center)	1-14	20 00				Bulk.	No. 21111

WELLINGTON.

NAME OF DAIRYMAN.	Date of inspection, 1915.	Per cent of fat.	Per cent of solids.	Per cent of solids not fat.	Bottle or bulk.	Illegal?	Insp. No.
<i>Milk:</i>							
William Belton.....	2-11	4.60	14.52	9.92	Bottle.	No.	91092
William Belton.....	2-11	3.35	10.52	7.17	"	"	91093
J. W. Gaines.....	2-11	2.85	11.88	9.03	"	Yes.	91096
J. W. Gaines.....	2-11	3.12	12.41	9.29	"	"	91097
Fred Harvey (Crist).....	2-11	2.20	10.88	8.68	"	"	91099
J. A. Hentzell.....	2-11	3.00	12.01	9.01	"	"	91094
F. E. Peek.....	2-11	4.00	13.88	9.88	"	No.	91090
F. E. Peek.....	2-11	4.40	13.56	9.16	"	"	91091
C. Rothrack.....	2-11	4.00	13.54	9.54	Bulk.	"	91101
Sam Stayton.....	2-11	4.05	11.10	7.05	Bottle.	Yes.	91102
Clarence Smith.....	2-11	4.35	14.72	10.37	"	No.	91098
<i>Cream:</i>							
Fred Harvey (Crist, dairyman).....	2-11	13.18				Yes.	91100

WINFIELD.

<i>Milk:</i>							
E. M. Chase.....	2- 9	3.25	12.54	9.29	Bulk.	No.	91080
Winfield Dairy Co.....	2- 9	3.60	13.99	10.39	"	"	91079
D. M. French.....	2-12	2.30	11.61	9.31	"	Yes.	91117
D. M. French.....	2-12	4.00	13.37	13.37	Bottle.	No.	91118
E. B. McFadden.....	2-12	3.95	13.77	9.82	Bulk.	"	91124
Thurst.....	2-12	3.60	13.11	9.51	Bottle.	"	91125

Bacteriological Analyses of Milk.*Results Submitted by City Milk Inspectors, Month of January, 1915.***CITY OF FORT SCOTT.**

DR. W. L. HOPPER, in charge of city milk work.

Distributors.	Cleanliness.	Bacteria per cc.
Burge	Fairly clean	324,000
City Dairy	Fairly clean	480,000
Cummings	Dirty	924,000
Davis	Clean	123,000
Kretuchmeyer	Fairly clean	511,000
Nangle	Fairly clean	246,000

CITY OF TOPEKA.

DR. W. L. ROWLES, in charge of city work.

Distributors.	Bacteria per cc.
Alfrey, M.	2,800
Bendler, W. H.	32,000
Boggs, W. C.	18,000
Bowman, W. N.	35,000
College Hill	125,000
Crocker, F. B.	200,000
Dornwood Dairy	13,400
Fairlea Farm	3,000
Green, E. V.	325,000
Hilton, W. C.	2,700
Kaw Valley	11,400
Lilac Dairy	55,000
Marken, G. E.	18,000
Mead, Paul	8,900
Miller, W. E.	8,900
Olive Dairy	182,000
Park View Dairy	88,000
Porter, T. B.	200,000
Rogers, A. A.	68,000
Scott Bros.	14,000
Tenth Street Depot	230,000
Topeka Pure Milk Co.	210,000
Wayside Dairy	7,500
White, W. E.	31,500
Willowdale Dairy	120,000
Wilson, Frank,	27,000
Woodhaven Dairy	1,700

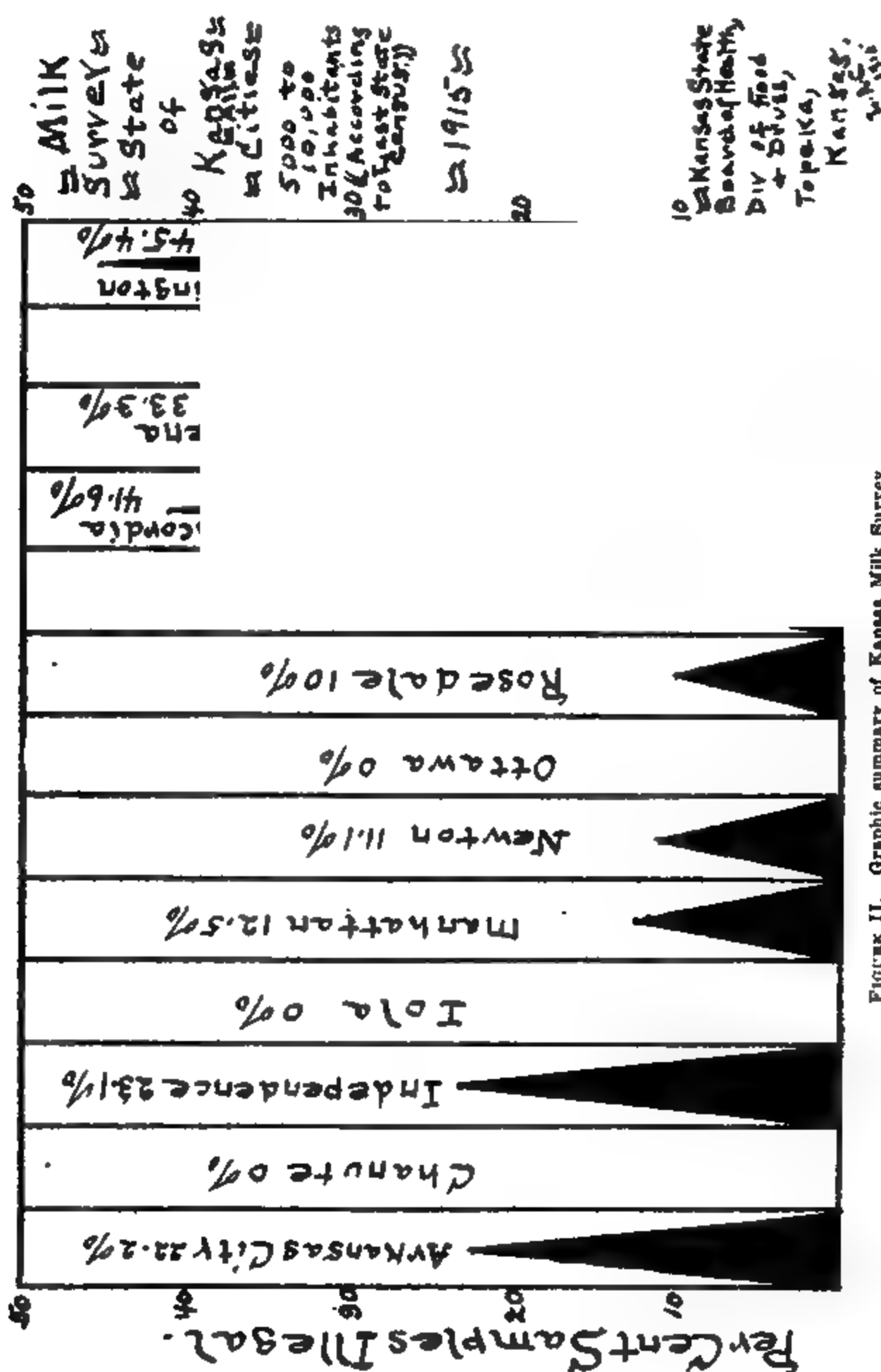


FIGURE II. Graphic summary of Kansas Milk Survey.

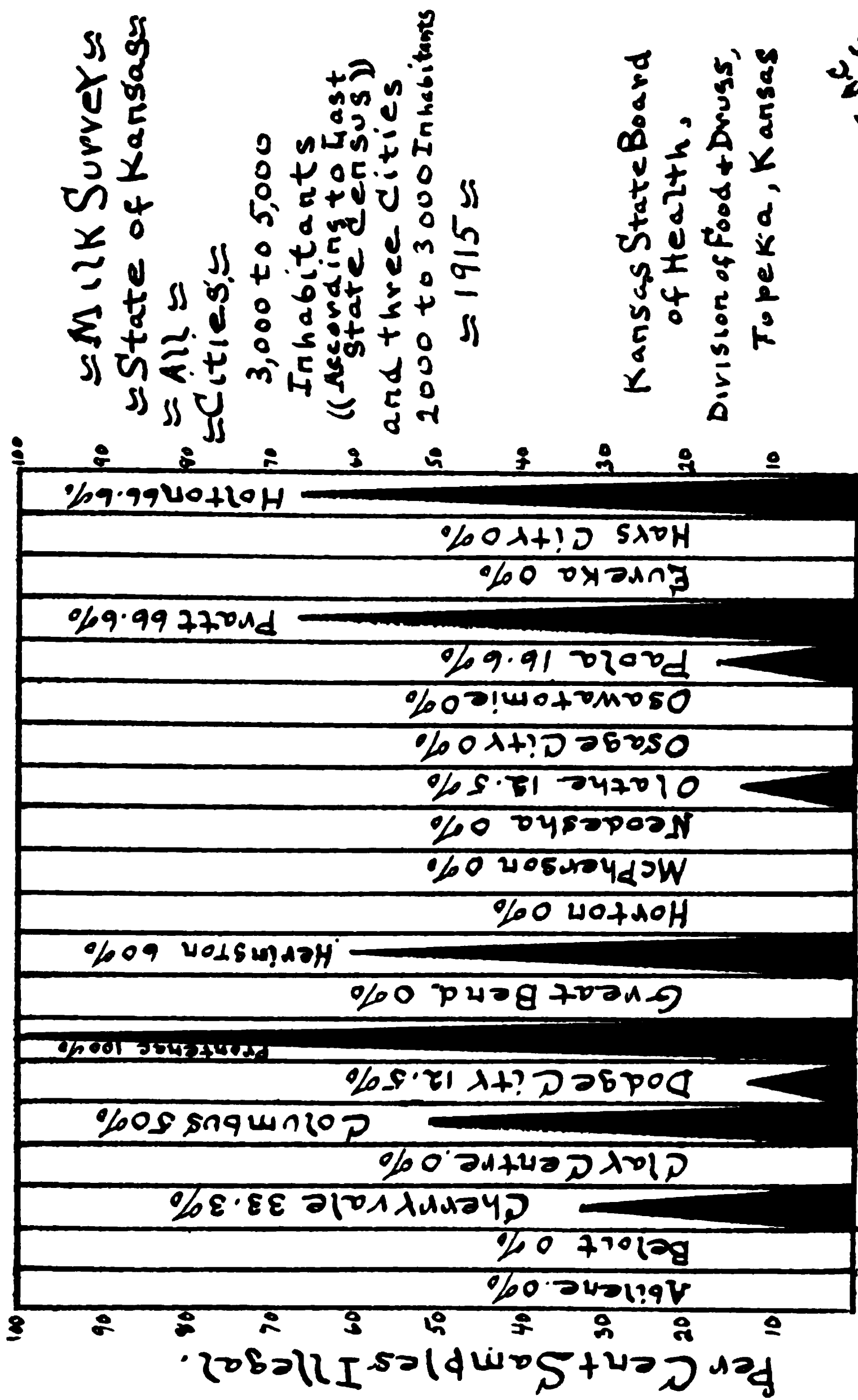


FIGURE III. Graphic summary of Kansas Milk Survey.

References for the Producers and Consumers of Milk.

- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 22, The Feeding of Farm Animals.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 55, Dairy Herd, Its Formation and Management.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 206, Milk Fever and Its Treatment.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 363, The Use of Milk as Food.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 413, Care of Milk in the Home.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 459, The House Fly.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 461, Concrete on the Farm.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 463, The Sanitary Privy.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 473, Tuberculosis.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 480, Practical Methods of Disinfecting Stables.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 490, Bacteria in Milk.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 540, The Stable Fly.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 578, The Making and Feeding of Silage.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 489, Home-made Silos.
- U. S. Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 602, Production of Clean Milk.
- U. S. Department of Agriculture, Washington, D. C. Circular No. 114, Bureau of Animal Industry, Sanitary Milk Production.
- U. S. Department of Agriculture, Washington, D. C. Bulletin No. 98, Bureau of Animal Industry, The Application of Refrigeration to the Handling of Milk.
- U. S. Public Health Service, Washington, D. C. Hygienic Laboratory Bulletin No. 56, Milk and Its Relation to the Public Health.

Influence of the Foot-and-mouth Disease on Milk.

The influence of the foot-and-mouth disease on the constitution of milk and butter is of interest to the people of Kansas at this time, since we have an outbreak of this dreaded disease among the live stock of this state. Quoting from F. Bordas and De Raczkowski (*Am. Fakif.*, 7 [1914], No. 68, pp. 271-292), and abstracted by the Experiment Station Record, page 76, January, 1915:

"It was found that the fat and mineral substances, notably the chlorids, of the milk of cows affected with foot-and-mouth disease were materially increased. There was no material

modification in the lactose (milk sugar) content, and the quantity of organic phosphorus in the milk was comparable with that of the normal healthy cow. The acidity of the milk was not altered. It was noted that the influence on the yield was not marked, the first day there being a slight increase, with a gradual diminution thereafter. Certain of the milks appeared viscous, with occasionally a reddish coloration. *The milk may be contagious, pus cells and pathogenic bacteria being present. An inoculation of a guinea pig confirmed its contagious character.* The influence of the disease on the constitution of butter appears to be variable, some butters being altered in constitution, while others are practically normal. *All such butters should be considered unmarketable.*

According to the above investigation milk and butter produced from cows having the foot-and-mouth disease are to be considered a menace to public health. The work of the State Live Stock Sanitary Commissioner should be encouraged to prevent the spread of this dreaded disease among our dairy cattle.

Recommendations to Producers of Milk.

The ten commandments for producing a clean, safe milk:

1. Clean, healthy cows kept in clean, light, well-ventilated stables.
2. Stable so constructed as to be easily cleaned.
3. A clean, well-drained barnyard.
4. Clean utensils, thoroughly sterilized.
5. Clean, healthy milkers that milk with dry hands.
6. A small-top milking pail.
7. Immediate cooling of the milk to 50° F. or lower.
8. Storage of milk at a low temperature until delivered to the consumer in clean bottles.
9. A clean separate house for handling the milk.
10. An abundant supply of pure water to clean utensils. If in doubt as to the purity of the water, always boil it before washing or rinsing utensils.

Recommendations to Consumers of Milk:

1. Always insist on the dealer supplying milk to you in the original sealed bottle, whether you buy from milk wagon, store, restaurant or hotel. Milk supplied to you in any other way may contain large numbers of bacteria from the dust and impurities in the air falling into it or from contact with dirty utensils and dirty handling. The original sealed bottle, with the dairyman's name on the cover or seal, is one way of putting the responsibility upon the man who adulterates the milk, whether by carelessness or intent.

2. After receiving the milk, if not used immediately, place as soon as possible in the refrigerator, ice box, or other cool, clean place until ready for use. For instance, milk kept at 45° F. may be kept perfectly sweet for twenty-four hours, while if kept at a temperature of 70° F., or room temperature, it may sour in less than six hours. The receptacle into which you pour milk for immediate use should be carefully scalded.

3. Always wipe the mouth of the milk bottle with a clean cloth; then remove the cap from the bottle with a clean special lifter, and replace the cap and put the remaining portion on ice immediately.

4. Do not expose uncovered milk in an ice box containing any foods having a strong odor. Milk absorbs odors quickly, and the flavor of the milk will be spoiled.

5. Wash milk bottles as soon as empty, with scalding water, and do not use milk utensils for any other purpose. Do not wipe the milk bottles, but let them drain until dry.

6. In the case of contagious disease in the house, such as diphtheria, scarlet fever, or typhoid, etc., return no milk bottles to the milkman without the permission of the health officer.

7. Special precautions should be taken with the baby's milk bottles. They should first be rinsed in warm water, then washed in *hot* water containing a little soda, and then *scalded*. In selecting a feeding bottle, choose one with a wide mouth and no corners.

8. If in doubt as to the freedom from contagious disease in the city, always pasteurize the milk as directed under the topic "Pasteurization."

Recommendations and Information to City Governments.

1. All cities of 3000 population or over should enact a milk ordinance providing for at least monthly inspection of the dairies supplying milk to the community. This ordinance should provide for a competent milk inspector, who should be a qualified veterinarian, or who should have authority to employ a qualified veterinarian, to make the tuberculin test on all cows supplying milk to the city.

2. Every city of 3000 population or over should have a thoroughly equipped bacteriological and chemical laboratory for the analysis of city milk and water samples. The cost of such equipment to meet the needs of such work would not be over \$500. A helper to the milk inspector would not be more than \$50 per month, and this helper could, with instruction, carry on the routine analyses of the samples to be examined.

3. Only nine out of thirteen cities of 10,000 population or above have city milk ordinances, and only seven of these nine cities of this class employ milk inspectors. The cities having 10,000 population or above that have milk ordinances are Coffeyville, Fort Scott, Hutchinson, Kansas City, Leavenworth, Parsons, Pittsburg, Topeka and Wichita. All these cities employ milk inspectors except Parsons and Pittsburg. It is suggested that these two cities employ suitable milk inspectors who can devote all their time to this work. It is suggested that the city of Topeka place more emphasis on the sanitary inspection of the dairies supplying milk to this particular city. Topeka has an excellent laboratory for bacteriological and chemical analyses of milk, and also a reliable inspector and bacteriologist; but there is needed an extra helper to more properly survey the sanitary condition of the dairies at least once a month.

In this investigation it was found that the Wichita milk ordinance, which was enacted in 1907, conflicts with the state law as to the standard for butter fat in milk. This matter has been taken up by the attorney-general with the Wichita city commission.

Only two cities in the state make bacteriological analyses of milk samples. These are Topeka and Fort Scott. It is recommended that all cities follow these two cities, and establish this line of work with the results of chemical analyses

made. The dirt or sediment test is also recommended to be made in conjunction with the other analyses mentioned.

4. Among the thirteen cities with a population of 5000 to 10,000, only three have milk ordinances and milk inspectors, namely, Arkansas City, Manhattan and Winfield. The following cities of this class have no milk ordinance or inspector: Chanute, Independence, Iola, Newton, Ottawa, Rosedale, Concordia, Galena, Junction City and Wellington.

5. Only three cities, namely, Herington, McPherson and Osawatomie, out of seventeen cities with a population from 3000 to 5000, have enacted city milk ordinances; but no inspectors are provided to enforce them. The milk ordinance of Osawatomie consists of only a short section. The following cities of this class have no milk ordinance or milk inspector: Abilene, Beloit, Cherryvale, Clay Center, Columbus, Dodge City, Frontenac, Great Bend, Horton, Neodesha, Olathe, Osage City, Paola, and Pratt.

6. The cities of Eureka, Hays City and Holton have no milk ordinance or milk inspector.

7. A study of the milk survey of these forty-six cities mentioned above shows that an urgent reform in cleaning up the milk supply is needed by these various city governments who do not have milk supervision, both by ordinance and inspection.

8. A campaign for clean, unadulterated, pure, sweet milk should be started by every citizen, and especially by the authorities in every city of Kansas.

9. The writer wishes to impress these thoughts upon the city authorities of this state: *Clean milk is desirable. Milk free from disease germs is also desirable. Both are indispensable.*

Standards for Milk and Its Products.

REGULATION 30.

Sections 8 and 14.

STANDARDS OF PURITY, QUALITY, AND STRENGTH.

When any article of food, liquor, drug or drink falls below the standards of quality, purity or strength which have been adopted by the United States Department of Agriculture or the Kansas State Board of Health, it shall be regarded as misbranded or adulterated, within the meaning of the Kansas Food and Drugs Law of February 14, 1907, as amended by chapter 184, Session Laws of 1909.

REGULATION 35.

I. Animal Products.

B. MILK AND ITS PRODUCTS.

a. Milks.

1. *Milk* is the fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and five days after calving, and contains not less than eight and one-half (8.5) per cent of solids not fat, and not less than three and one-quarter (3.25) per cent of milk fat, and contains no preservative, added water, or other foreign substance.

2. *Modified Milk* is milk modified in its composition so as to have a definite and stated percentage of one or more of its constituents.

3. *Skim Milk* is milk from which a part or all of the cream has been removed, and contains not less than nine and a quarter (9.25) per cent of milk solids.

4. *Pasteurized Milk* is milk that has been maintained at a temperature of 149 degree F. for twenty minutes or 158 degrees F. for ten minutes, and immediately cooled to 50 degrees F., or lower.

5. *Sterilized Milk* is milk that has been heated at the temperature of boiling water or higher for a length of time sufficient to kill all organisms present.

6. *Condensed Milk, Evaporated Milk, Concentrated Milk*, is the product resulting from the evaporation of a considerable portion of the water from the whole, fresh, clean, lacteal secretions, obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and ten days after calving, and contains not less than twenty-five and five-tenths (25.5) per cent of total solids and not less than seven and eight-tenths (7.8) per cent of milk fat.

7. *Sweetened Condensed Milk* is milk from which a considerable portion of water has been evaporated, and to which sugar (sucrose) has been added.

(1) It is prepared by evaporating the fresh, pure, whole milk of healthy cows, obtained by complete milking and excluding all milkings within 15 days before calving and 7 days after calving, provided at the end of this 7-day period the animals are in perfectly normal condition.

(2) It contains such percentage of total milk solids and of fat that the sum of the two shall be not less than 34.3 per cent and the percentage of fat shall be not less than 7.8 per cent.

(3) It contains no added butter or butter oil incorporated either with whole milk or skimmed milk or with the evaporated milk at any stage of manufacture.

8. *Condensed Skim Milk* is skim milk from which a considerable portion of water has been evaporated.

9. *Buttermilk* is the product that remains when butter is removed from milk or cream in the process of churning.

10. *Goat's Milk, Ewe's Milk and Other Milks* are the fresh, clean, lacteal secretions, free from colostrum, obtained by the complete milking of healthy animals other than cows, properly fed and kept, and conforming in name to the species of animals from which they are obtained.

b. Cream.

1. *Cream* is that portion of milk, rich in milk fat, which rises to the surface of milk on standing, or is separated from it by centrifugal force, is fresh and clean, contains not less than eighteen (18) per cent of milk fat, and contains no preservative or other foreign substance.

2. *Evaporated Cream, Clotted Cream*, is cream from which a considerable portion of water has been evaporated.

c. Milk Fat or Butter Fat.

1. *Milk Fat, Butter Fat*, is the fat of milk and has a Reichert-Meisl number not less than twenty-four (24) and a specific gravity not less than $0.905 \left(\frac{40^{\circ}\text{C.}}{40^{\circ}\text{C.}} \right)$.

d. Butter.

1. *Butter* is the clean, nonrancid product made by gathering in any manner the fat of fresh or ripened milk or cream into a mass, which also contains a small portion of the other milk constituents, with or without salt, and contains not less than eighty (80) per cent of milk fat, and contains less than sixteen (16) per cent of water.

2. *Renovated Butter, Process Butter*, is the product made by melting butter and reworking, without the addition or use of chemicals or any substances except milk, cream, or salt, and contains less than sixteen (16) per cent of water and at least eighty (80) per cent of milk fat.

e. Cheese.

1. *Cheese* is the solid and ripened product made from milk or cream by coagulating the casein thereof with rennet or lactic acid, with or without the addition of ripening ferments or seasoning, and contains in the water-free substance not less than fifty (50) per cent of milk fat.

2. *Whole Milk or Full Cream Cheese* is cheese made from milk from which no portion of the fat has been removed, and contains, in the water-free substance, not less than fifty (50) per cent of milk fat.

3. *Skim Milk Cheese* is the solid and ripened product made from skim milk by coagulating the casein thereof with rennet or lactic acid, with or without the addition of ripening ferments or seasoning.

4. *Goat's Milk Cheese, Ewe's Milk Cheese and Other Cheeses* are the ripened products made from the milks of the animals specified, by coagulating the casein thereof with rennet or lactic acid, with or without the addition of ripening ferments or seasoning.

f. Ice Cream.

1. *Ice Cream* is a frozen product made from cream and sugar, with or without flavoring, and contains not less than fourteen (14) per cent of milk fat.

2. *Fruit Ice Cream* is a frozen product made from cream, sugar, and sound, clean, mature fruits, and contains not less than twelve (12) per cent of milk fat.

3. *Nut Ice Cream* is a frozen product made from cream, sugar, and sound, nonrancid nuts, and contains not less than twelve (12) per cent of milk fat.

g. Miscellaneous Milk Products.

1. *Whey* is the product remaining after the removal of fat and casein from milk in the process of cheese making.

2. *Kumiss, Koumys*, is the product made by the alcoholic fermentation of mare's or cow's milk.

The Flyless Dairy.

As this bulletin is nearly ready for the press, *The Country Gentleman*, a weekly magazine, gives an account in its February 7, 1915, issue of a flyless dairy in Ford county, Kansas. The article mentioned is entitled "Two Dentists and a Flyless Dairy," and is from the pen of Vinton V. Detwiler. He says that two dentists, Doctors Simpson and Balou, started a dairy farm in Ford county, Kansas, three years ago. They hire all work done, reserving for themselves only the pleasures of planning improvements and conducting advertising and selling campaigns. But their records for the first two years show that, after they paid themselves a good percentage of interest on their investment, the farm made a substantial gain in value. He quotes one of the proprietors of the dairy as saying: "You have to educate people to demand clean milk. You can't sell people dirty bread, or berries that flies have been roosting on, but they seem to feel a little differently about milk. They refuse to drink water if there is cow manure in the bottom of the glass, but they will drink milk under such conditions. Peculiar thing, is n't it? We have not been educated to demand the same cleanliness in milk that we require in other foods. Doctor Crumbine of the Kansas State Board of Health started the fly-swatting campaign all over Kansas a few years ago by telling the people to ask Mr. Fly where he came from when they found him at the dinner table. It takes a man with an unusually strong stomach or with a starvation appetite to take a fly out of his food, ask it where it spent its forenoon, and whether it wiped its feet before it came into the house, and then eat the food. It costs money to produce milk that is pure and clean, and the person who gets that grade of

milk must pay a higher price than he would for an article that is just as rich but that has not been handled with the same care."

The proprietors of the above-mentioned dairy expect to have a flyless dairy barn this summer. Some of their plans are that all the windows of the barn will be screened and there



General view of the "Flyless Dairy" in Ford county, Kansas.

View showing the herd and cow barn of the "Flyless Dairy" in Ford county, Kansas.

will be sliding screens at each of the end doors. When the cows are brought in from the pasture the screens will be raised just high enough to let them walk under. Outside the door strips of burlap will brush the flies off the cows. The cows will pass through a dungeon vestibule too, after they go under the screen, and very few flies will pass through a dark, windowless, vestibule. The barn should be practically free of

flies. The proprietors of this dairy also say that they intend to trap the flies too. There will be traps in all the screened windows to catch the flies that try to go in or out. There will be an electric fan—run at almost no cost, because they generate their own electricity—at one side of the door and a big trap at the other side. When the flies are brushed from the cow's back and sides and come up against the screen to try to get into the barn they will get into the trap before they have time to start in another direction.

The State Board of Health will be interested to watch developments in this "flyless dairy." We hope other dairymen in Kansas will try some such scheme.

Acknowledgments.

Acknowledgment is due to the traveling inspectors of our department, and our food analysts at the Agricultural College and the University, the city health officers, the milk inspectors of the cities who have aided us in this survey, the editor of *The Country Gentleman*, who so kindly gave us permission to reprint several photographs of a flyless dairy in Kansas, and to all sources from which the writer has freely drawn for material in this bulletin.

Heredity versus Food in Development.

It has become a dictum among those most interested in the raising of cattle that "breed rather than feed" determines the quality and output of milk. The food of an animal may be varied within very wide limits without altering the composition of its milk, provided that the ration is sufficient in amount. The only constituent which is known to be altered in milk by changes in the food supply of the mother is the fat. The composition of butter may be affected somewhat by the food supplied to the cow; but normally little if any influence on the chemical make-up of the milk can be produced by wide variations in the mineral content of the food.

The question as to what extent, if any, the structure and development of the offspring can be affected by the character of the maternal diet is somewhat analogous to that which concerns the possible alterations in the milk produced by the mother. An idea current among cattle raisers is that a high

mineral content in the ration will cause excessive bone formation in the offspring.

It has been remarked that "assumptions in nutrition are dangerous." The questions raised in the foregoing discussion can not well be tested by experiment on human beings; but the effect which a high lime-intake by the mother may have on the skeletal development of the offspring has been subjected to experiment in the domestic animals. Since grains are deficient in calcium, farm rations made up wholly of them will not supply to growing animals a sufficient amount of this element. For this reason growing or breeding swine fed entirely on grain should receive an additional supply of calcium, either as calcium carbonate or calcium phosphate or in leguminous hay. Any drain on the organism with consequent loss of calcium is thus averted. The new Wisconsin experiments, however, have shown that though the nutrition of the mother has a great influence on the offspring, the size is not modified by the liberal supply of any one element. Although a high calcium ration, containing over five times as much lime as the standard ration, was added to the feed of the mother during the entire period of gestation, no evidence was gained that the skeleton of the fetus was increased in any dimension or in calcium content thereby. If size can be influenced at all by the quantitative relation of the nutrients supplied, it is clear that many factors are involved and not a single mineral element. Size, says *The Journal of the American Medical Association*, is in a very large measure fixed by heredity.

The Wrapping of Baker's Bread.

It has been said that the making of a perfect loaf of bread is the goal of all those who aspire to excel in cookery. Certainly bread, which forms a part of every well-planned meal, is a food of which the palate never tires. Let the loaf be ever so satisfactory, however, with respect to size and symmetry, crust and crumb, when it leaves the baker's oven, it may nevertheless experience subsequent changes which sooner or later render it less attractive, palatable, or wholesome. Stale bread does not appeal to the taste in the same way that fresh specimens of the "staff of life" do; but in addition to the development of staleness bread may also develop so-called bread diseases caused by micro-organisms, rendering the product unfit

for human consumption. Furthermore, like many other unprotected and carelessly handled articles of food, exposed bread may become a purely mechanical carrier of objectionable organisms.

The recent agitation in behalf of improved conditions in the food industries has involved not only the adulteration of the products entering into the ration of man and the domestic animals, but likewise the cleanliness of the articles of diet intended for human consumption. The plea for clean milk is becoming more prominent than the propaganda for pure milk. Sanitary food legislation is beginning to aim at food that is clean from the point of view of the hygienist.

The demand for clean bread has promptly followed the cry for clean milk and unpolluted water. Already in many communities regulations are in force which compel the protection of bread and bakery products between the oven and the home. Bread wrapped with either porous or paraffined paper is now a common sight even in small villages of the United States.

Although this practice has met with public approval in many quarters, it has been claimed that wrapping injured the quality and palatability of the loaf. This claim demands consideration along with the possible sanitary advantages. A chemical investigation of the subject has been completed in the department of food and drugs of the Indiana State Board of Health. The wrapping of the bread, either in semiporous waxed or paraffin paper retards the escape of moisture and tends rather to the preservation of the freshness of the bread than to its staleness. Unwrapped bread loses its freshness after the first day, while the early keeping quality both as to condition of crumb, flavor and odor is enhanced by the use of wrappers. There is, accordingly, says *The Journal of the American Medical Association*, no occasion at present for discarding what has seemed to many to be a wholesome innovation in the distribution of bakery products.

Bacillus-Carriers Among Animals.

The widespread attention which has in recent years been given to the existence of "bacillus-carriers" is beginning to serve a useful purpose in elucidating the diseases of animals as well as those of man. The careful studies of Rettger and others on the bacillary "white diarrhea" of young chicks have

shown conclusively that infected ovaries constitute the real source of infection in this disease, the responsible organism, *Bacillus pullorum*, being retained in the egg and thus transmitted to the developing chick. Among the more plausible explanations of the way in which the ovarian infection can be produced, it has been assumed, in the light of what is known regarding the carrier conditions in typhoid fever, that chicks which recover from an attack of white diarrhea may continue to harbor the specific organism for a long time, or perhaps permanently, without revealing any untoward symptoms of the disease. Following this point of view, when maturity is reached the hitherto latent infection may be assumed to become actively centered in the ovary, especially in consideration of the intense physiologic activity occurring there during egg production. An obvious alternative explanation of the presence of the organism in the ovaries lies in the possibility of infection after maturity, through the droppings of diseased chicks or through the agency of transmission by lice or mites. An important link in the chain of evidence needed to complete the cycle of infection has at length been obtained by Rettger, Kirkpatrick and Jones. They have demonstrated experimentally that female chicks which are infected when small may develop into permanent bacillus-carriers and be a constant source of danger to young and old stock. This carrier condition may be established in fully 25 per cent of an infected flock. We have in these investigations, says *The Journal of the American Medical Association*, which are likely to furnish methods for averting losses which run into thousands of dollars in the animal industry, an excellent illustration of the far-reaching effect which fruitful methods of research and suggestions derived from scientific medicine may exert in the problems of commerce, just as we have repeatedly pointed out how much medicine has gained in many cases from the discoveries which have, in the first instance, been made in non-medical fields and particularly in the sciences underlying agriculture. The biologic sciences are so closely interrelated that every one of them or its applications is likely to profit by the successful pursuit of another.

Safe Milk for Baby.

With apologies to the author of Tipperary.

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The musical score is written on eight staves, each with a piano accompaniment. The lyrics are as follows:

1. "It's a long way To cleanly dai-ries

2. Its a long way to go Its a

3. long way to cleanly dair-ies. To the

4. saf-est milk we know!"

5. "Fare-well To old time methods

6. Welcome to standards fair Its a long, long

7. way to cleanly dairies. But our goals right

8. there! Its a there!

Chicago Health Dept Educational Poster No 284
By Dr G B Young

BULLETIN

OF THE

Kansas State Board of Health.

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S. J. CRUMBINE, M. D., Editor.

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No. 5.

MAY, 1915.

VOL. XI

Showing good road

Sumner County Sanitary and Social Survey.

"From flies and filth to food and fevers."

"If your well and roof leak fix your well first."

"Within certain limits, public health is purchasable."

Read the report of the survey and inventory of a typical Kansas county.

The proper care of the *milk*, as well as the baby, is important in hot weather.

Proper prenatal instruction of expectant mothers would further reduce the infant mortality rate.

The insanitary toilet open to the "typhoid fly" is the greatest single menace to health in any community.

Is the failure of doctors to report their births an index of their lack of interest of the rights of the child?

Before starting on your summer vacation, secure immunity from typhoid fever by taking antityphoid inoculation.

It is becoming increasingly evident that the public health nurse is an important and efficient factor in public health work.

MORBIDITY STATISTICS—Concluded.

COUNTIES.	Typhoid fever....	Dysentery.....											
Logan.....	0	0											
Lyon.....	0	0											
Marion.....	0	0											
Marshall.....	0	0											
McPherson.....	0	1											
Mende.....	0	0											
Miami.....	0	0											
Mitchell.....	0	0											
Montgomery, except Colleyville.....	1	1											
Morris.....	0	0											
Morton.....	0	0											
Nemaha.....	0	0											
Neosho.....	0	1											
Ness.....	0	0											
Norton.....	0	0											
Oage.....	0	0											
Osborne.....	0	0											
Ottawa.....	0	0											
Pawnee.....	0	0											
Phillips.....	0	0											
Pottawatomie.....	0	0											
Pratt.....	0	0											
Ravenna.....	0	0											
Reno, except Hutchinson.....	1	0											
Republic.....	0	0											
Rice.....	0	0											
Riley.....	0	0											
Rocky*.....													
Rush.....	0	0	0	3	0	1	2	0	0	0	0	0	0
Russell.....	0	0	3	21	0	0	0	0	0	0	0	0	0
Saline.....	0	1	2	101	3	1	7	1	0	0	0	0	0
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedgewick, except Wichita.....	0	0	3	120	4	1	0	0	0	0	0	0	0
Seward.....	0	0	3	299	13	7	3	1	0	0	0	0	0
Shawnee, except Topeka.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sheridan.....	2	7	0	203	1	0	1	1	0	0	0	0	0
Sherman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Smith.....	0	0	0	3	13	0	0	0	0	0	0	0	0
Stafford*.....													
Stanton*.....													
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	2	0	0	115	43	8	14	0	0	0	0	0	0
Thomas.....	0	5	0	3	0	0	0	0	0	0	0	0	0
Trigo.....	0	2	0	2	0	0	0	0	0	0	0	0	0
Wabunsee.....	1	2	0	1	0	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	1	0	0	0	0	0	0
Washington.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	0	0	0	3	2	0	0	0	0	0	0	0	0
Woodson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wyandotte, except Kansas City.....	0	1	0	0	7	2	0	0	0	0	0	0	0
	2	23	2	70	23	1	25	5	1	0	0	0	0

* No report.

Other communicable diseases, 19; pneumonia, 16; septic sore throat, 1; cancer, 2; erysipelas, 1.

Sumner County Sanitary and Social Survey.

FOREWORD.

The Kansas State Board of Health has long realized that a large proportion of the typhoid rate is occurring in rural communities. In fact, it estimates that fully 75 per cent, at the very least, of all cases of typhoid fever occur in the country and in the small country towns. While it has been believed that this proportion of typhoid fever is due, in a large measure, to polluted domestic water supplies and insanitary sewage disposal methods, yet this has been a matter of surmise and based on no authentic information. To be able to reduce this surmise to facts meant a most thorough and painstaking investigation of some localized area of sufficient size to warrant conclusions. It was, therefore, determined to select some one county in the state and to make a complete survey of that county.

For various reasons, the selection was made of Sumner county, not necessarily because Sumner county had any greater percentage of typhoid than any other county of proportionate population; but owing to the familiarity of the writer with local conditions, and on account of the coördinate action on the part of the commercial clubs of Sumner county, with promises of active assistance in covering the territory, it was felt that better results could be obtained.

The State Board of Health is under obligations to many local workers. Special thanks are due to the following persons: C. E. Scudder, cashier of the Citizen State Bank, Belle Plaine; A. L. Barner, ex-county commissioner, Belle Plaine; Rev. Thos. Price, Belle Plaine; L. C. Markley, county commissioner, Belle Plaine; A. W. Lynn, secretary of the Wellington Commercial Club; Chas. P. Hangen, representative of the sixty-ninth district, Wellington; B. F. Zook, county commissioner, Wellington; Dr. M. Collins, Oxford; Drs. T. T. Holt and N. B. Fall, Geuda Springs; Dr. H. A. Vincent, Perth; Dr. F. B. May and W. T. Derrington, Hunnewell; D. L. Zirkle, South Haven; Dr. Geo. Knappenberger, Milan; Drs. E. L. Evans and R. S. McIlhenny, Conway Springs; and Evan Richards, county commissioner, Conway Springs—all of whom were active in local

organization work and the securing of transportation. Thanks are also due to Dr. T. H. Jamieson, county health officer, for a large amount of publicity; to Prof. E. W. Burgess, sociologist of Kansas University, for advice in gathering sociological data; to Geo. S. Hine, state dairy commissioner, for advice and assistance in the scoring of farm dairies, and to Prof. C. C. Young and his corps of able assistants in the state water and sewage laboratories for the analysis of about 800 water samples. The writer is also indebted to the state secretary of agriculture, J. C. Mohler, for the article on "Resources of Sumner County"; to W. J. V. Deacon, state registrar, for the article on "Mortality and Morbidity Statistics," and also for Prof. Young's article on "Geology and Chemistry of Sumner County Waters."

Those employed in the active inspection work were Messrs. F. E. Rowland, traveling state drug inspector; A. E. Ice, traveling state food inspector; J. Risser, professor of Zoölogy of Washburn College of Topeka; Crosby Deacon, Morris Sanders, Martin R. Miller, and Henry O'Brien, all of whom had had special training in public health inspection and bacteriological laboratories. The following compilation is offered as a result of ten weeks' field work in the gathering of data.

JOHN J. SIPPY, M. D.,
Epidemiologist Kansas State Board of Health.

SUMNER COUNTY.

Descriptive.

Sumner county is a parallelogram, thirty-six miles east and west by thirty-three miles north and south, comprising 1179 square miles and consisting of thirty townships, the southern tier of which is nine miles long. These townships lie between 30 to 35 south, both inclusive, and between the ranges 1 and 2 east, and 1, 2, 3 and 4 west, of the sixth principal meridian. It is drained by the Arkansas river in the northeast corner of the county; by the Ninnescah river, running nine to ten miles west and joining the Arkansas in township 31 south, range 2 east; by Slate creek, which begins in the northwest corner of the county and makes its exit near the center of township 34 south, range 2 east; and by the Chikaskia river in the southwest corner of the county. As a consequence of these streams,

all of which run in a southeasterly direction, the county from northeast to northwest is a series of flats which form the valleys of these streams and undulations which form the ridges between.

The mean altitude of the county is about 1100 feet.

The earliest settlement of the county dates back to 1870.

Owing to the failure to lend coöperation on the part of the commercial clubs of the cities of Caldwell and Argonia it was not possible to complete the survey of the entire county. Twenty-four townships were completely covered. With the exception of a strip on the east edge of Dixon township, the northeast two sections in Morris township, one-half of Chikaskia township, and the half of Falls township lying north and east of the Chikaskia river, the balance of these townships and the townships of Caldwell and Bluff in the southwestern portion of the county were entirely omitted. The fact that the first four of these townships mentioned are only partially covered must be borne in mind, and the averages hereafter given on them must be accepted as incomplete.

A total of 2426 inspections were made.

Chemistry and Geology of Waters.

C. C. YOUNG, Director Water and Sewage Laboratories.

Underlying the whole of Sumner county will be found the Permian shales. Very little water can be obtained from these shales, and that which is found is usually hard, containing considerable gypsum and calcium bicarbonate. These shales have cut down in places and are filled with aluvium. Very often these deposits yield good, fresh, reasonably soft, drinking water. The area extending from Conway Springs to Mayfield and the Chikaskia river area yield a soft water very satisfactory for municipal or domestic uses.

The ground water in the southwest corner of the county is very hard, containing in solution gypsum and calcium carbonate in excessive quantities. The ground water from the Slate creek bottom is highly mineralized, principal constituents being calcium bicarbonate and gypsum. The water-bearing material of the Ninnescah area contains an excessive amount of sodium chloride (common salt), and is relatively hard, due to the calcium salts present. The water from the Arkansas river bottom

is excessively hard, and contains sodium salts similar to those found along the Ninnescah river, but not quite so highly concentrated.

In the southeast corner of the county many of the waters are saline.

Resources of Sumner County.

J. C. MOHLER, Secretary, State Board of Agriculture.

Sumner is one of the richest counties in Kansas, ranking sixth in the total value of all property. Its per capita wealth is little short of \$2000, and exceeds by quite a bit the average for the state. As is the case elsewhere in Kansas, the chief source of wealth production is its fertile soil, which yields up products aggregating immense values annually. The county was second in the worth of its field crops last year, with a total exceeding six and a quarter million dollars. This amount, apportioned equally among its inhabitants, would give to each \$225.

At one time Sumner was noted as the premier wheat-raising county of Kansas. This is no empty honor in a state whose outputs of wheat are unmatched in their aggregates. Sumner led all others in 1901, with a yield of 6,819,000 bushels, which stands to-day as the record wheat production by any county in any year. The intelligent husbandmen, however, realizing the limitations and shortcomings of relying so largely for a competence on a single crop, have been giving increased and increasing attention to diversity. This has been an incalculable aid in widening the county's agriculture and promoting prosperity. Corn, alfalfa, oats and the sorghums are prominent in its repertoire of crops. In fact, Sumner grew more corn than any other county in 1909, was second in oats last year, and is ninth in alfalfa. The highest type of agriculture, however, contemplates the keeping of live stock, and in this branch of industry Sumner is important. The latest data show that its live stock were worth upwards of five million dollars and the value of their products about \$1,400,000 in 1914. While all kinds of live stock flourish in Sumner, the county has been particularly noted for its fine specimens of sheep and hogs. It was a Sumner county Merino that yielded the heaviest fleece of which there is record, and Sumner county

hogs have been champions at expositions where competition was world-wide.

The general surface of Sumner county is a gently undulating prairie, in many places nearly level. "Bottom" lands average two and one-half miles in width and comprise about 20 per cent of the total area. Well water of excellent quality is abundant at depths of ten to forty feet. The Arkansas river is the principal stream, and good drainage is afforded by numerous rivers and creeks. Timber belts on the waterways are chiefly of cottonwood, willow, ash, box elder, red and white elm, hackberry, bur oak, mulberry, coffee bean, ash

Threshing scene.

and honey locust. At the town of Geuda Springs, in the southeast, are salt and mineral springs, said to have medicinal properties. A vast deposit of rock salt underlies the city of Wellington at a depth of 220 feet. Sandstone is found in many localities, potter's clay in small quantities on Slate creek, Gypsum beds in Green township, and a thin stratum of limestone on the higher ridges.

Sumner is well served by railroads, having 280 miles, main track. There are several important shipping points, especially for grain, flour, produce and live stock. Flour and grist mills constitute the county's chief manufactures.

In her homes, schools and churches Sumner is typical of Kansas, and that means a high-class citizenship, which, after all, is the county's greatest resource.

Sociological.

According to the United States census of 1910 the population was given as 30,654, of which 93.6 per cent was native born. Here then we should find a very typical American community. The total number of farms given was 3477, of which 1612, or 46 per cent, were owned and 1865, or 53½ per cent were rented. That tenancy in the county has increased is well shown by the comparison with the 1900 census, which gave the number of owned farms as 1932, or 54.1 per cent, and the number of rented farms as 1608, or 45.1 per cent. The following chart is illustrative of the conditions within the territory covered by the survey, and is well worth study by way of comparison with the tables which follow. The average tenant in Sumner county occupies a farm only 4.17 years.

TABLE I.

Townships.	No. of farms inspected.....	Owners.....	Tenants.....	Percentage owners.....	Percentage tenants.....	Average years ownership.....	Average years tenancy.....	Years longest ownership.....	Years longest tenancy.....
Gore.....	92	51	41	55.40	44.60	17.20	3.60	44	26
Belle Plaine.....	135	74	61	54.80	45.20	16.20	4.40	44	30
London.....	90	51	39	55.00	45.00	18.20	3.40	43	8
Illinois.....	87	40	47	46.60	53.40	11.00	7.00	40	33
Conway.....	92	58	34	63.00	37.00	12.20	4.60	33	13
Eden.....	71	41	30	58.00	42.00	13.80	6.00	33	30
Creek.....	83	46	37	55.40	43.60	13.00	4.40	36	32
Springdale.....	90	35	55	39.00	61.00	11.90	4.00	46	24
Sumner.....	75	30	45	40.00	60.00	18.50	6.30	40	26
Seventy-six.....	99	31	68	31.25	68.75	15.00	4.40	38	30
Harmon.....	81	49	32	60.00	40.00	17.00	3.40	41	11
Palestine.....	92	50	42	54.30	45.70	18.50	3.50	45	22
Oxford.....	103	41	62	40.00	60.00	18.20	6.30	43	40
Avon.....	89	43	46	48.00	52.00	13.30	2.60	44	9
Wellington.....	71	29	42	40.00	60.00	16.00	4.40	44	30
Osborne.....	84	42	42	50.00	50.00	14.40	3.50	40	12
Ryan.....	89	46	43	51.70	48.30	15.00	3.60	31	12
Dixon*.....	17	11	6	65.00	35.00	7.00	5.30	26	15
Morris*.....	8	4	4	50.00	50.00	15.00	3.50	38	7
Chikaskia*.....	57	23	34	40.40	59.60	11.70	2.70	36	12
Downs.....	101	46	55	45.50	54.50	18.00	5.00	40	31
Jackson.....	86	33	53	38.40	61.60	14.40	5.00	40	35
Greene.....	73	33	40	45.20	54.80	15.00	2.80	45	10
Valverde.....	103	47	56	45.00	55.00	14.00	2.50	42	11
Walton.....	154	71	83	46.00	54.00	14.30	3.60	42	27
Guelph.....	120	42	78	35.00	65.00	11.70	2.70	41	20
South Haven.....	121	54	67	44.60	55.40	10.70	4.00	43	22
Falls*.....	63	38	25	60.30	39.70	10.00	4.60	43	21
Totals.....	2,426	1,159	1,267	47.36	52.64	16.30	4.17	.....	.....

* Incomplete.

The question of tenancy gauges to a large degree the sanitation of the premises. It can be easily understood that the foreign owner of a rented farm wishes all the income possible on his investment, and he does not take kindly to suggestions

of money spent for improvements, even though these improvements are absolutely necessary to the health of his tenant. That this is fallacious is well recognized by one of the largest managers of Sumner county farms, who made the observation that he had found that illness in his tenancy materially injured the efficiency of the tenant, and secondarily reduced the profits on those farms. Furthermore, that he believed that the few dollars spent on a good water supply, good toilets and other sanitary conveniences were the best additions that any owner could make to his land investment.

By comparison with other tables, this question of tenancy will be found to be an index to sanitary standards. It is worthy of note that in those townships where it does not, it is because tenants are occupying homes only recently vacated by owners. While this is not shown by this table, yet it is shown by an actual study of inspectors' records.

Sanitation.

One of the objects of the survey was to secure a sanitary index of the farm premises in the county, in order, if possible, to determine how best to proceed to reduce illness, disease and death on these farms. While the farm rates for disease and death are, as a rule, lower than city rates, it was felt that they can be made still lower by the practical application of hygiene and sanitation. The whole idea of the survey was to help the farmers of Sumner county to better health, longer life, greater efficiency and greater wealth. It was finally determined to adopt a score-card system. It is realized that the usual criticism of the score method is that it permits of too much latitude of opinion on the part of different inspectors. However, this has been obviated to a large extent by a most thorough attention to details. The following score, comprising a total of 100 points, shows how practical and sane a survey inspection can be made and how it can be sufficiently well balanced to permit of accurate deductions.

SCORE POINTS IN THE SANITARY SURVEY.

Certain facts as to number of members of a family, their history in regard to infectious diseases and some sociological data are first requested, in order that they may have due consideration in summing up conclusions.

1. *General surroundings, house and yard. Score, 10 points.*

To score 10 points, premises must be fairly accessible ($\frac{1}{2}$) to good roads, and with fairly well-kept drives ($\frac{1}{2}$). Area of yard must be such that buildings are not crowded ($\frac{1}{2}$); and front and back yards must be reasonably attractive and clean, not littered; no trash of any amount; order, not confusion, must prevail ($\frac{1}{2}$). Site must be really good, rather high ($2\frac{1}{2}$). Good natural or artificial drainage ($2\frac{1}{2}$). Walks should be in good condition ($\frac{1}{2}$); yard fences and small out-buildings should be in good repair ($\frac{1}{2}$). At least a few trees and shade ($\frac{1}{2}$); some well-kept lawn ($\frac{1}{2}$); and yard, as a whole, pleasant and attractive ($\frac{1}{2}$). Garden should be neat ($\frac{1}{2}$).

2. *House. Score, 30 points.*

To score 30 points, first floor should be at least two feet above ground-level foundation, and ventilation beneath (1). Passable repair should exist in walls (1) and roof (1). Cellar should be well walled up, well ventilated, and not damp or moldy (2). Porches should also be in repair, not littered up, and reasonably attractive (2). Windows and doors should constitute sufficient area to provide abundant ventilation (2). They should open and close easily (4). Ask if in cool or cold weather the house is aired at least once daily, and if bedroom windows are opened at night. If not the score is 0, unless the house is heated with grates or fireplaces and doors and windows fit loosely; then the score is 2. Doors and windows should be well screened (3).

Conveniences: Fuel should be of appropriate kind and convenient. Flues should be clear so as to provide good draught (1). Two points are allowed for any good system of cold storage which maintains a temperature of less than 60° . System of lighting should be such as to provide least amount of eye strain (1). If house is plumbed, 2 points are to be allowed for sink and 2 for bath tub.

General aspect of house should be an air of general cleanliness and comfort. No insanitary smells or odors (6).

3. *Water supply. Score, 15.*

If dug well or spring, unless extraordinarily well protected, score is 0. Should be convenient ($\frac{1}{2}$) and abundant ($\frac{1}{2}$). If cistern, should be impervious cement lined (1). If brick walled only $\frac{1}{2}$ is allowed, and if stone 0. Roof should be allowed to wash well before water is turned in, and eave troughs

should be frequently cleaned ($\frac{1}{2}$). Good sand and charcoal filter should be provided with good sieve or gauze covering at inlet (4); inlet should preferably be at bottom, and arranged to drain and clean after each rain ($2\frac{1}{2}$). If interior brick wall or arch is provided, score may also be $2\frac{1}{2}$.

If well should be driven, drilled or bored, and if cylinder pit, it should be dry and free from debris ($2\frac{1}{2}$). Either should have impervious cement covering (3), or good brick or stone arch (2). Tight board covering will be scored 1 point if good waste trough or drain is provided; if not, 0. Good suction pump with tight cylinder is allowed $1\frac{1}{2}$ points; well-covered chain pump 1 point; bucket, 0. Should be protected by high fill or cement platform from return surface water and dirt infiltration (2). Should be at least 100 feet from privy, ponds or manure collection (5). If analysis of water shows pollution the score is 0.

4. Sewage and garbage disposal. Score, 15 points.

Garbage should be stored in covered flyproof containers ($\frac{1}{2}$); should be removed once daily in cool weather, twice in hot weather ($\frac{1}{2}$), to distance not less than 100 feet from house ($\frac{1}{2}$); and disposed of either by burning or burying, or in such manner as to leave no debris for fly breeding ($\frac{1}{2}$). Containers should not leak, or be allowed to run over, either standing or in process of removal ($\frac{1}{2}$). Total, $2\frac{1}{2}$.

Sewage disposal, if by outhouse with or without pit, when filthy or old, dilapidated, not screened, markedly odorous, score 0. If by septic tank or underground disposal and working satisfactorily, score $12\frac{1}{2}$. If outhouse has pit, is properly constructed, is in good repair, is properly screened, not malodorous, and at least 100 feet from water supply and kitchen, then score $12\frac{1}{2}$.

Barn and barnyard. Score, 20.

Barnyard must be reasonably well drained ($2\frac{1}{2}$); clean and free from trash, manure and litter ($2\frac{1}{2}$). Barn must have good foundation ($\frac{1}{2}$), have fairly good ventilation ($\frac{1}{2}$), have an interior reasonably clean (1). Chicken coops (1) and pig pens (1) must at least be fifty feet from house, not filthy and malodorous. Stock, especially cows, must present well-fed appearance, surfaces reasonably free from filth, and should have had no recent illness (3). If silo or feed racks, base should not be surrounded by fermenting matter and manure (1). Separate water supply and power pumping plant

are allowed $\frac{1}{2}$ point each. Water tank for stock should be high and dry ($\frac{1}{2}$). Manure should be removed every day during spring and summer and autumn and spread upon the ground, or it must be kept in fly-tight covered bins or pits (5). Accumulations of unprotected manure, score 0.

Milk supplies. Score, 10.

Equipment should consist of properly constructed milk house, located high and dry, and free from contaminating surroundings ($\frac{1}{2}$), and convenient to house and milking yards ($\frac{1}{2}$). (1) In construction, condition of floors, walls and ceiling ($\frac{1}{2}$), and light, ventilation and screens ($\frac{1}{2}$) are considered. Standard utensils, kept in good condition ($\frac{1}{2}$), with an abundance of good water for cleaning ($\frac{1}{2}$), are necessary. Hot water for sterilization, and a milk cooler or refrigerator which keeps milk at a temperature of about 50° , score $\frac{1}{2}$ point each. Under methods, cleanliness in handling milk, score 5 points, as follows: Care of animals, 1; pails, $\frac{1}{2}$; cleanliness of milkers, $\frac{1}{2}$; immediate removal of milk from stable, $\frac{1}{2}$; proper and prompt cooling and storage, $1\frac{1}{2}$; and prompt cleansing of utensils by thorough washing, scalding and careful airing, 1. Under butter making, manner of cream separation scores $\frac{1}{4}$, care of cream separator $\frac{1}{2}$, and storage of butter $\frac{1}{4}$.

TABLE II.

TOWNSHIPS.	Be- low 20.	20 to 29.	30 to 39.	40 to 49.	50 to 59.	60 to 69.	70 to 79.	80 to 89.	90 to 100.	Average general score.	Highest general score.	Owner of premises.
Gore.....		2	5	10	27	29	15	4	...	60.14	85.00	Mr. Drake.
Belle Plaine.....		1	3	7	26	47	41	8	2	65.89	95.50	W. L. Mason.
London.....			4	10	21	32	20	3	...	61.32	86.25	Thomas Nixon.
Illinois.....	1		5	7	37	27	10	...	...	51.95	79.00	N. A. McCune.
Conway.....		1	4	8	28	39	8	4	1	60.92	90.00	J. Grier.
Eden.....					9	36	22	4	...	67.90	81.75	J. D. Calloway.
Creek.....				3	17	34	26	3	...	66.00	83.00	F. M. Kise.
Springdale.....		1		9	22	40	18	...	...	61.19	79.00	J. E. Hussey.
Sumner.....			5	5	15	33	13	4	...	62.41	87.25	J. C. Beattie.
Seventy-six.....			6	17	27	33	14	1	1	58.60	90.00	F. L. Thomas.
Harmon.....			2	7	14	34	20	4	...	63.20	84.25	N. Lawless.
Palestine.....				4	15	34	31	6	2	61.66	94.00	Tom Barner.
Oxford.....			1	2	16	55	25	4	...	65.83	88.25	J. G. Bussard.
Avon.....		1	2	11	28	36	9	2	...	59.81	83.75	G. W. Canfield.
Wellington.....	1	3	4	14	22	17	7	3	...	55.83	86.25	M. K. Wright.
Osborne.....			4	9	26	35	7	3	...	59.29	89.75	J. L. Goodrum.
Ryan.....			3	4	26	31	23	2	...	63.40	81.75	A. W. Shaffer.
Dixon*.....					4	7	6	...	...	66.50	77.25	W. C. Kline.
Morris*.....					1	6	1	...	...	65.53	75.75	E. D. Williams.
Chikaskia*.....		1		6	13	21	16	...	...	61.36	79.25	F. B. Martin.
Downs.....		1	4	5	27	36	24	4	...	62.56	85.75	Charles Iddings.
Jackson.....		1	5	8	21	37	12	2	...	59.38	82.50	Mrs. Maggie Hunt.
Greene.....			4	16	16	29	7	1	...	58.58	89.25	Joseph Potucek.
Valverde.....				4	22	48	28	1	...	64.60	84.75	Mrs. C. B. Miller.
Walton.....			2	7	34	66	42	3	...	64.80	80.75	W. G. Buffington.
Guelph.....	2	1	8	14	39	40	14	2	...	57.72	89.75	R. D. Anderson.
South Haven.....		2	3	27	36	33	18	2	...	56.30	84.25	William Knox.
Falls*.....				9	23	17	13	1	...	59.00	80.00	J. A. Montray.
Totals.....	4	15	74	223	612	932	490	71	6	58.51	.....

* Incomplete

It is believed that the preceding table is self-explanatory and that few comments are necessary. It is to be borne in mind that the value of improvement, the size of the house, etc., were given consideration, yet only in so much as these improvements tended to increase the sanitation of the farm. It was often found that a well-improved farm was not always the cleanest farm, and that on these premises the first principles of sanitation were utterly ignored.

It is well to consider the different points in the score by subjects.

GENERAL SURROUNDINGS. Owing to a most excellent system of county roads most farmhouses in the county are easily accessible. Exceptions are few, except in the neighborhood of rivers which interrupt section lines. The majority of farmers gave some attention to the appearance of the yards, and there is little necessity for the crowding of buildings into small space. Drainage is usually good, although many farmers seem to have overlooked this important question, and it is often the case that buildings are located upon that part of the farm which can not be utilized for cultivation. For the most part, trees are plentiful and there is little reason for any farm in Sumner county not being made attractive. The average score on this subject is 7.25 out of a possible 10.

HOUSING CONDITIONS. The general prosperity of Sumner county farmers precludes overcrowded living conditions. In the census which was taken during the survey, all members of the family above the age of fourteen years were classified as adults, all below that age as children. The adults included not only the members of the family, but all the employees or other members of the household. A table of townships might be of interest, but the summary of this table shows as follows:

Adults	6,811
Children	3,556
Total number of rooms.....	13,692
Average number persons per family.....	4.68
Average number rooms per family.....	6.13
Average rooms per person.....	1.32

Instances of overcrowding were rare, considering the total number of inspections, but the following instances are worthy of note. It is needless to state that in every instance where these did occur it was found that families were tenants.

Instances of Overcrowding.

Instances.	Number persons.	Number rooms.
1.....	7	3
1.....	8	2
2.....	8	4
1.....	9	3
2.....	9	4
2.....	10	3
3.....	10	4
1.....	10	5
1.....	11	6
1.....	13	4
1.....	13	6
1.....	14	5

The majority of houses were screened. While this inspection was made during the summer season, and ventilation was generally good, yet it was felt that the average farmer paid insufficient attention to the providing of sufficient window area and to the location of windows to insure adequate ventilation.

The average farmhouse has merely grown by additions from year to year as the increased prosperity of the farmer permits. The general architecture is not good, and most all of them are the handiwork of the practical carpenter and not of the architect. There is a preponderance of the one-and-one-half story houses, which generally can only meet with condemnation. The bedrooms are always located on the second floor, ceilings of which are low; ventilation almost universally bad.

The common drinking cup and bucket is the rule. Running water and plumbing were found in a very small proportion. Convenience and labor-saving devices for the benefit of the farmer's wife are only too rare. It would seem that the farmer, who demands all the newest and up-to-date labor-saving devices in the field, would feel that the housewife is entitled to her share in the home. Women demand more physical recuperation and rest than the male sex, and more especially the women who are expected to rear children. This is important, not only from a physical but from a sociological standpoint. No woman can be a good mother, and devote the time which is necessary to her children, when she is obliged to spend from ten to twelve hours a day in the strenuous and irritating details of household labors. The average house score was 19.1.

WATER SUPPLY. All samples of water supplies were taken in sterilized bottles, properly refrigerated immediately when taken, and shipped to the State Water Survey laboratories at Lawrence, reaching the laboratories within twelve to eighteen hours after being taken. The bacteriological standard set for good and bad water was liberal. The following table and summary require little explanation:

TABLE III.

TOWNSHIPS.	Wells.													
	Total No.		Dug.			Driven.			Drilled.			Total results.		
	Wells.....	Analyses...	Good.....	Doubtful...	Bad.....	Good.....	Doubtful...	Bad.....	Good.....	Doubtful...	Bad.....	Good.....	Doubtful...	Bad.....
Gore.....	61	34	3	.....	9	16	.....	.....	5	.....	1	24	.....	10
Belle Plaine.....	128	66	.....	.....	.....	48	5	8	3	.....	2	51	5	10
London.....	48	11	3	.....	2	4	.....	2	.....	.....	.....	7	.....	4
Illinois.....	33	6	1	1	3	.....	.....	.....	.....	1	.....	1	2	3
Conway.....	79	19	4	.....	2	.....	.....	.....	6	1	4	12	1	6
Eden.....	71	10	1	1	3	1	1	.....	.....	1	2	2	3	5
Creek.....	82	14	1	1	7	.....	.....	.....	2	1	2	3	2	9
Springdale.....	87	17	4	.....	7	1	1	2	1	.....	1	6	1	10
Sumner.....	34	14	1	2	8	1	.....	.....	1	.....	1	3	2	9
Seventy-six.....	33	9	1	1	7	.....	.....	.....	.....	.....	.....	1	1	7
Harmon.....	53	40	6	1	10	13	1	.....	6	2	1	25	4	11
Palestine.....	86	48	1	.....	.....	36	4	4	3	.....	.....	40	4	4
Oxford.....	59	12	2	.....	5	1	.....	.....	3	1	.....	6	1	5
Avon.....	23	9	.....	.....	5	.....	.....	2	.....	.....	1	.....	1	8
Wellington.....	31	23	3	2	5	1	.....	.....	.....	2	.....	4	4	15
Osborne.....	37	12	.....	3	8	.....	1	.....	.....	.....	.....	.....	4	8
Ryan.....	83	21	4	.....	7	1	.....	3	1	1	4	6	1	14
Dixon*.....	17	2	1	.....	.....	1	.....	.....	.....	.....	.....	2	.....	.....
Morris*.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chikaskia*.....	52	10	3	.....	3	3	.....	.....	1	.....	.....	7	.....	3
Downs.....	80	22	1	2	11	4	.....	2	1	.....	1	6	2	14
Jackson.....	57	14	3	3	7	.....	.....	.....	1	.....	.....	4	3	7
Greene.....	33	8	2	.....	5	.....	.....	.....	1	.....	.....	3	.....	5
Valverde.....	47	8	2	.....	1	2	1	1	1	.....	.....	5	1	2
Walton.....	91	23	1	1	19	1	.....	.....	1	.....	.....	3	1	19
Guelph.....	37	6	1	1	4	.....	.....	.....	.....	.....	.....	1	1	4
South Haven.....	96	12	2	1	6	.....	.....	.....	1	1	1	3	2	7
Falls*.....	52	9	1	.....	6	.....	.....	.....	1	.....	1	2	.....	7
Totals.....	1,598	479	52	21	160	136	14	24	39	11	22	227	46	206
Percentages.....	.....	30	22.3	8.7	69	78.7	8.1	13.2	55	15	30	47.4	9.6	4.30

* Incomplete.

It is a self-evident fact that ground water is always pure, and pollution occurs from surface influences. Furthermore, water which is polluted by human filth is practically the only dangerous water. Given a ground-water supply, well protected from seepage and from the entrance of filth from the surface, one need have no fear of resulting disease from its consumption. The problem of purity, then, lies in providing the proper protection. This would seem to be so simple a matter that ordinary judgment would dictate how one might

TABLE III—CONTINUED.

TOWNSHIPS.	Cisterns.													
	Total No.		Pump.			Chain pump.			Bucket.			Total results.		
	Cisterns....	Analyses...	Good.....	Doubtful...	Bad.....	Good.....	Doubtful...	Bad.....	Good.....	Doubtful...	Bad.....	Good.....	Doubtful...	Bad.....
Gore.....	31	15	2		2	3	2	6				5	2	8
Belle Plaine.....	7													
London.....	42	8			1	2	2	3				2	2	4
Illinois.....	53	4				1	2	1				1	2	1
Conway.....	13	6				2			1		3	3		3
Eden.....		5	1			2					2	3		2
Creek.....	1													
Springdale.....														
Sumner.....	39	5				1	1		1		2	2	1	2
Seventy-six.....	64	19			2	3		5	2		7	5		14
Harmon.....	29	9		1	1	4	1	2				4	2	3
Palestine.....	6													
Oxford.....	42	7	1		2		1	3				1	1	5
Avon.....	66	11				3	2	3	1		2	4	2	5
Wellington.....	40	13				4	2	2	1		4	5	2	6
Osborne.....	46	12		1		3		2		2	4	3	3	6
Ryan.....	6	2			1			1						2
Dixon*														
Morris*														
Chikaskia*	4													
Downs.....	21	3			1			2						3
Jackson.....	29	1				1						1		
Greene.....	39	8				2		5			1	2		6
Valverde.....	56	5				2		3				2		3
Walton.....	50	11			1	3	2	3			2	3	2	6
Guelph.....	74													
South Haven.....	25													
Falls*	9	1				1						1		
Totals.....	792	145	4	2	11	37	15	41	6	2	27	46	19	79
Percentages.....		18.2	23.5	11.5	65	39.5	16.5	44	17	6	77	31.6	13.1	54.3

* Incomplete.

NOTE.—Bacteriological Standard: *Good*: Bacterial count less than 250 per cc. *Doubtful*: One positive out of three tests for *bacillus coli* (typical intestinal bacterium), or bacterial count, 250 to 5,000. *Bad*: Two positive out of three tests for *bacillus coli*, or high bacterial count, and accompanying high number of acid litmus colonies.

always insure a safe water supply. The larger the orifice, the more penetrable the covering the greater is the amount of pollution. As this table shows, a driven well is a comparatively safe well, a drilled well less so, and a dug well, with its accompanying abomination, the bucket, a source of fear.

The cistern is a slightly different problem. The degree of pollution is influenced by some several factors—the failure to see that the roof and eave troughs are free from filth; to see that a proper filter is provided, which will eliminate the filth which comes from the roof; to see that the covering is impenetrable (that is, cement, not boards); to see that the cistern walls are free from cracks through which seepage may enter from near-by filth accretions; and, finally, to see that the vehicle or medium which takes the water from the cistern does not carry back into it more filth from the surface.

An Analysis of 500 Wells Proves

Driven		Drilled		Dug	
Good	Bad	Good	Bad	Good	Bad
71.5%				72.5%	

The Dirt Gets in at the Top.
Protect Your Well.

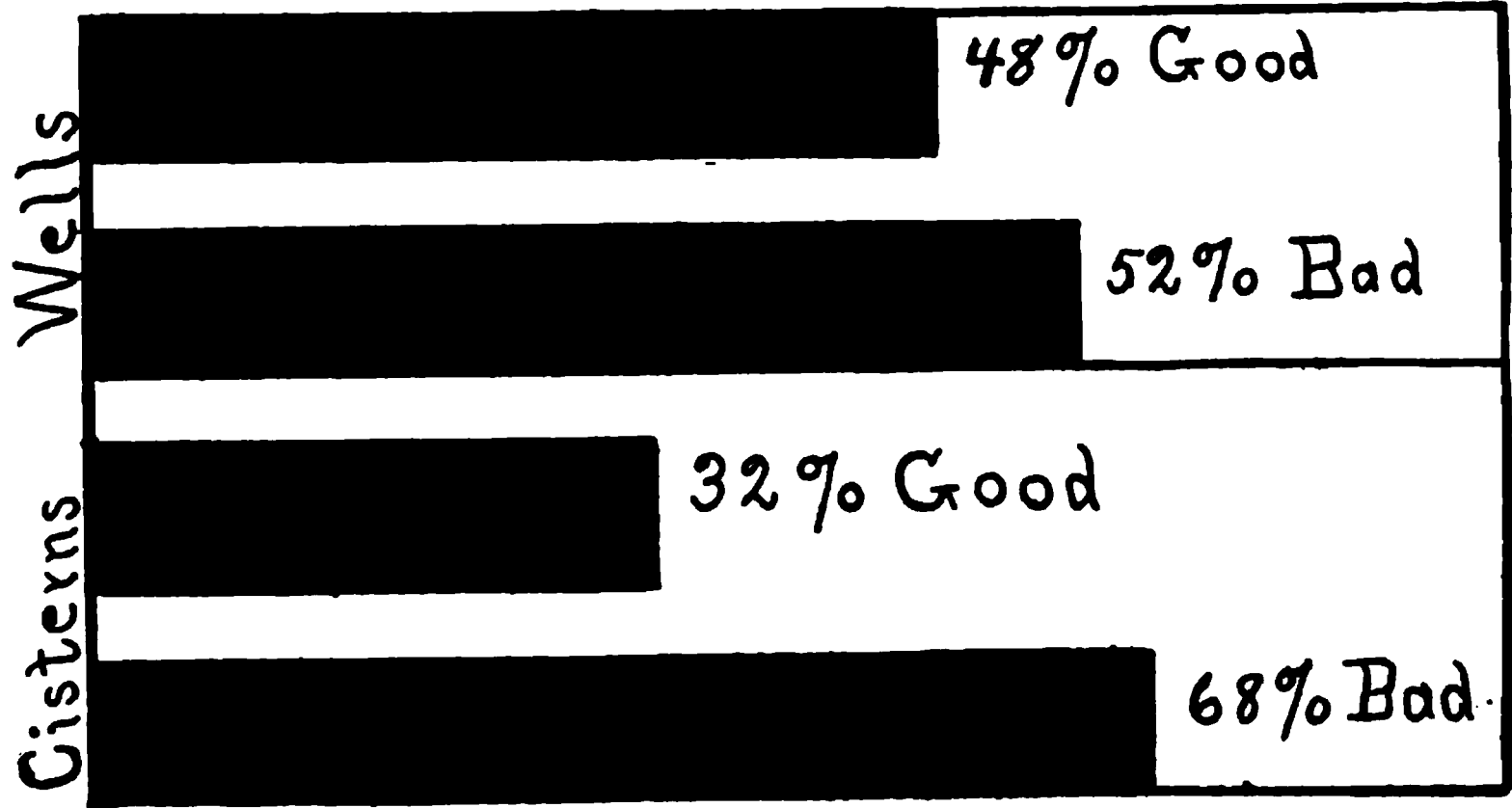
Chart A

About 85 per cent of all cisterns inspected were provided with charcoal filters. Less than 1 per cent were provided with proper filter, and the balance had no means of filtration whatever. It is difficult to estimate the amount of money which people of Kansas are spending on the charcoal filter, but whatever the amount, in the opinion of the writer, it may be said

to be wasted. The average charcoal filter may, if properly cared for, have some efficiency, but only a very small per cent are properly cared for. The remainder accomplish only one end, and that is the concentration of pollution by holding it from one rain to the next.

As will be noticed in this table, the cistern with pump shows a somewhat large amount of pollution. These figures are somewhat misleading. Five of these cisterns were filled with water which had been hauled a considerable distance in a tank, which, of course, in itself provides means of contamination. The balance were supplied by the ordinary pitcher

A Bacteriological Analysis of 480 Wells (including 160 Dug Wells) and 145 Cisterns



Indicates that the Average Cistern is a badly neglected source of domestic water supply.

Chart B

type of pump, which is by no means to be recommended. Again, the number of samples were too small to draw accurate conclusions. As between the chain pump and the bucket, the evidence, of course, favors the former. But the sum total of these analyses does not justify the high favor which cistern water enjoys in public opinion.

In further explanation, to those who may inquire as to why all persons who are ingesting these polluted waters are not constantly ill, it may be stated that these bacteriological tests

are purely presumptive. That is, they indicate bacterial pollution. All of these organisms may not be of the disease-producing variety, but the fact that they are present in the water proves that the entrance way is open to disease organisms. By way of comparison, it may be said that, if a man leaves his house unlocked, many people may enter. Only occasionally does the thief and the marauder come along, but if

the owner has no means of discerning friend from foe, it is safer to keep the house always locked. A water supply protected from all organisms, whether mild or dangerous, is always safe.

SEWAGE AND GARBAGE DISPOSAL METHODS. The most common method of garbage disposal was that of feeding to hogs. In one way this has some advantage, inasmuch as it necessitates the removal of garbage at least twice and sometimes three times daily. The criticism to be offered is the fact that universally the open garbage pail is in use, placed usually at the back door. Proper garbage pits or properly covered containers were almost unknown.

If in a county whose prosperity is as widely heralded as is that of Sumner county, one were to make the statement that one farm out of ten had no toilets or sewage-disposal method, it would hardly be a credible statement. Or if one were to say that any man would purchase an automobile when his home was without a toilet it could hardly be believed. Yet this inspection revealed exactly those conditions. Two hundred and twenty-one, or 9.2 per cent, of the farmhouses inspected had no toilets. Only twenty homes, or less than 1 per cent, had up-to-date flush toilets, while 2185 had outside toilets. A closer inspection of these outside toilets revealed even worse conditions. 56.2 per cent had no vaults, and most of these

were described as filthy or overflowing; 38.2 per cent had the common shallow earth vaults; and 5.6 per cent were equipped with proper drawer, brick or cement vaults. Certainly the farmers of Sumner county, whatever pride they may feel in their huge assets in banks or grain bins, have little reason to feel pride in this matter of sewage disposal. In Kansas only fourteen people were killed by lightning in the year 1913, yet the majority of people have a deadly fear of lightning, and thousands of dollars have been spent on lightning rods by way of protection. The same amount of money spent for lightning rods in Sumner county, if properly expended for sanitary toilets, would have saved many dollars in the expense of sickness and funerals.

Even a cat has sufficient instinct of cleanliness to bury its excreta. The building of a proper toilet to insure the safe disposal of human excreta should be the first act in the build-

ing of a home. This is necessary, not only from a standpoint of the prevention of disease, but from the standpoint of esthetics. Constipation and consequent lack of elimination is responsible for much poor health and premature old age, and every country doctor has good reason to know that this is one of the common complaints in women living in rural districts, which results in much unnecessary medication. Regular intestinal evacuations are to a large extent a matter of habit, which is broken into by the reluctance of farmers' wives to resort to a repulsive and disgusting toilet. The money spent

for proprietary and patent laxative formulas in many homes would be sufficient to build a proper toilet, which would make the expenditure unnecessary. In closing this subject, the following criticism by the Hon. James Wilson, the former United States Secretary of Agriculture, is herewith submitted:

"Among the worst conditions ever to be found about any house is soil that has become polluted with excrement from the human body. A number of widely prevalent diseases have been spread by means of such polluted soil, simply because the facts have not been generally known.

"Having at heart the best interests of the American farmer and his family, I consider it my personal duty to appeal to every American farmer to do all in his power to remove any insanitary conditions that he may find on his farm or in his neighborhood, and thus, by protecting the members of his family, perform one of his highest patriotic duties."

BARNS AND BARNYARDS. This report has not attempted a classification in the matter of the care of barns and barnyards.

The average barn score was 13.35. It was felt that some allowance in the sanitation of the barnyards should be made at this time, for the reason that the inspection was made during the height of the harvest and threshing season. Farm hands were scarce, and it was impossible for the average farmer to give attention to the prompt removal of manure. The general impression gained by the inspection was favorable. Evidently, the campaign of the past few years against permitting the accumulation of fly-breeding material has borne some fruit. It was due either to this or to the fact that the farmer is realizing the value of this material as fertilizer for depleted soil. In a great many instances where accumulation of manure was found, our inspectors also found an apologetic proprietor offering the explanation of a very busy season as a reason for the same. In some localities the fact that the inspection had been advertised resulted in a general clean-up of the premises preceding the visit of the inspector. It was almost universally true that no effort was made to protect manure from flies, and the use of pits was almost unheard of.

A very common custom was the presence of chicken coops closely adjacent to the kitchen door. While this custom may have no disease-producing qualities, it is highly productive of the fly nuisance and a matter which requires more attention from the farmer, and more especially from the farmer's wife.

DAIRY METHODS. The average dairy score was 6.22. Our inspection of dairying methods was rather unsatisfactory. One of the principal reasons was due to the fact that the great majority of farmers do not have separate milk houses, all milk and butter being cared for in kitchen, pantry or cellar. The great majority of farmers confessed that they did not attempt any changes of costume in milking, and that they made no effort to prevent contamination from the clothing which was worn during the whole process of barn chores. Probably less than 2 or 3 per cent used covered buckets or made any attempt to wash the udders of cows. The open pail with the wide-flaring mouth was almost universally in use, and the popular method of cleansing the flank and udder of the animal was to merely brush it off with the hand, the same hand used in the milking. Probably the fact that the milk was cared for within

the house, and not in separate milk house, insured a thorough scalding and cleaning of milk containers, and, in fact, if the methods of the farmer who did the milking were as efficient as that of the farmer's wife who cared for the milk after it was brought to the house, a much better quality would be insured. No attempt was made by the way of bacteriological examination of samples. The common method of refrigeration was the use of cellar, outside cave or milk trough, the milk trough usually being connected by drain with pump or windmill. This hardly complied with our standard of 60° temperature, consequently many low grades resulted. In fact, there is great need for education in the proper methods of handling of milk in the country, the result of which will be a considerable reduction in infant morbidity and mortality.

MORBIDITY AND MORTALITY. In common with the balance of Kansas, there are no mortality statistics prior to 1912 upon which may be based a scientific study of the demography of Sumner county.

In common with the balance of Kansas, there are no mortality statistics prior to 1912 upon which may be based a scientific study of the demography of Sumner county.

A study of the statistics for the three years 1912 to 1914, inclusive, shows the following birth and death rates:

Year.	Deaths.	Rate per 100,000.	Births.	Rate.
1912	240	7.8	676	22.0
1913	246	8.4	672	23.0
1914	304	10.9	636	22.9

These as compared with the state:

	Death rate.	Birth rate.
1912	10.2	22.5
1913	10.6	21.0
1914	10.5	21.0

It will be observed that the death rate was somewhat largely increased in 1914, due probably in part to the securing of better reports. Prior to this time, however, the county was below the rate for the state as a whole, but in 1914 it exceeded it.

The records show that tuberculosis has not been a very serious problem in Sumner county, but still the rate is high enough to warrant a careful consideration of its ravages. In 1912 the death rate per 100,000 from tuberculosis for the state was 64.1 and for Sumner county 39; in 1913 for the state 64.6,

Sumner county 34; in 1914 for the state 59.4, Sumner county 57.6.

Typhoid fever is probably the greatest disgrace in Sumner county, because it is so easily preventable and the economic loss is so great. There have been no unusual epidemics of typhoid fever in Sumner county within the period under consideration, and yet the rate in 1912 was 19 per 100,000; in 1913, 14 per 100,000; in 1914, 14.4 per 100,000. For the state in 1912 the rate was 20.3 per 100,000; in 1913, 20.3 per 100,000; in 1914, 20 per 100,000. In the three years Sumner county has lost fourteen citizens by deaths from typhoid fever, which would indicate that not less than 140 and from that to 200 cases of typhoid fever had occurred within the three years.

Barring these two important diseases, there have been no very significant causes of death except diarrhea and enteritis in children under two years of age. In 1912 there were 16 deaths from this cause; in 1913 there were 7 and in 1914 there were 18. These cases of diarrheal diseases in children may be very properly attributed, in a measure, to the unsatisfactory conditions of the water supply and the milk supply, to overcome which it is necessary to carry on not only careful supervision over these articles, but to undertake the education of the mother. It is only by so doing that it is possible to reduce the deaths from this cause.

Sumner county is to be congratulated in having had effective health supervision, the position of county health officer having been filled by men of exceptional ability, who have given of their time and attainments in a self-sacrificing devotion to the needs of their community, in spite of the fact that the remuneration was insignificant. Diseases dangerous to the public health have been quite generally reported, and the morbidity statistics of Sumner county have always been favorably considered. The fact, however, that physicians from adjoining counties and from Oklahoma frequently practice in Sumner county and do not always carefully report their cases has been an unfortunate element.

TYPHOID FEVER. Fifty-seven families in the homes inspected admitted the presence of typhoid fever in their homes during the previous two-year period, in each of which there

occurred from one to four cases. These, classified by townships, are as follows:

Township.	No. Families.	Township.	No. Families.
Belle Plaine	8	Osborne	3
Conway	1	Chikaskia	1
Eden	1	Downs	3
Springdale	1	Jackson	2
Sumner	1	Greene	2
Seventy-six	4	Valverde	1
Harmon	2	Walton	11
Oxford	1	Guelph	11
Avon	8	South Haven	5
Wellington	1		

The prevalence of the disease in these townships corresponds very accurately with the pollution of water supplies and the absence of proper sewage-disposal methods. It is probable—in fact it is known from morbidity statistics—that this list is not accurate and that several families in which the disease

The threshing cook shack—a common source of typhoid,
which needs extraordinary supervision.

had existed did not admit the fact. When it is considered that typhoid fever is the direct result of the assimilation of intestinal material, it can not be too well impressed upon the mind of the average man the absolute necessity of two things: first, to insure the destruction of typhoid-infected material; and second, to prevent infected material which escapes destruction from gaining entrance to the alimentary canal either through food or drink.

SCHOOLHOUSES. In the progress of the inspection, there were visited 118 rural schools. Inasmuch as these were visited

during the vacation period, and at a time when the poorest conditions prevailed, it is not thought worth while to give any classification of this subject. However, 96 water samples were taken, of which 52 were from wells and 24 from cisterns.

It was rather a surprise to find, of this total number of 118, that 19 schoolhouses, or 16 per cent of the total, were without any water supplies, depending upon neighboring farms. That this custom is bad can not be gainsaid. Every school district should have control of its own water supply and insure that the school children are receiving adequate health protection. Too many schoolhouses are of the box-car type, with windows on each side, which, with the accompanying cross-lights, is certainly responsible for much eye strain. However, the joint-district idea is a growing one, and Sumner county has the distinction of leading all other counties in the state in the number of joint districts. The junction of several school districts is proving not only sound economically and educationally, but is also resulting in a much higher type of school buildings and will certainly result in a better physical type of school child.

HEALTH ORGANIZATION. During the past four or five years the amount of money expended by Sumner county in the promotion of public health has been about \$340 annually. The results obtained from this amount of money can only be attributed to a high sense of public responsibility on the part of the physicians throughout the county. There has been a general spirit of coöperation with the county health officer, and each physician has to a greater or less extent assumed the responsibility for the prevention of disease in his own locality. The county is to be congratulated upon having, in the present county health officer, a man whose general perspective on public-health work is much above the average. Sensing the fact that the duty of the health officer is largely in the education of the individual, he has placed an unusual amount of dependence upon printer's ink and publicity, and the results are apparent. In very few other counties in the state is communicable disease being more promptly and thoroughly reported and more promptly cared for. In fact, the amount and quality of the work performed justifies a higher remuneration. The health office has been fortunate also in having a board of county commissioners which realizes its duty as a county board of health, and who have individually assumed more or less responsibility

in their respective districts. It is believed that, with its wealth and population, Sumner county can well afford to employ a whole-time health officer with an adequate remuneration. The county board of health fully realizes this need, but has not felt that such a step would meet with popular favor or that the people of Sumner county are willing to assume the expense of the same. It is believed that the employment of a man who could afford to devote his full time to public-health work instead of only part time, as at present, together with adequate

What patent medicine did for this man. He's dead.

office assistance, would bring direct results and prove an economical saving in the expenses of illness and death. Such an expenditure should reach at least \$3000 per year.

PROPRIETARY REMEDIES. It has been stated by those engaged in the drug trade that the sale of patent medicines is on the wane. Doubtless this is true of the average highly advertised and worthless fake remedies. However, there has grown up in the last decade a large trade in the so-called household remedies. These are usually distributed throughout rural districts by the itinerant vendor or medicine wagon traveling from house to house delivering these remedies at the door. While doubtless most of them consist of simple remedies, yet the indiscriminate self-dosing on these remedies

is a custom to be deprecated. The extent to which it prevails can well be shown by the table below.

Incidentally, in gathering information on a point of the sale of these remedies, it was also endeavored to obtain some comparative idea of the amount of business which is being transacted with the so-called mail-order or catalogue houses. While this has little bearing from a sanitary standpoint, it will prove of considerable interest to many merchants and others, and we herewith submit the obtainable statistics on this. In the columns of this table a great many refused to make statements as to the amount of business transacted with itinerant vendors and with mail-order houses. In most instances it was accepted as a fact that those refusing to make statements really traded with both and felt that it was a matter which did not concern any but themselves. Out of the total statements relative to the proprietary or home-remedy sales, 81.5 per cent gave admission of trade, while 18.5 per cent replied in the negative. The average mail-order sales per family as stated, and this

TABLE IV.

TOWNSHIPS.	Trade with itinerant medicine vendor.			Trade with mail-order or catalogue houses?					Largest individual amount.
	Yes.	No.	Not stated.	No.	Not stated.	Yes, but no amount given.	No. giving amounts.	Past annual trade.	
Gore.....	49	18	25	23	22	15	32	\$715	\$100
Belle Plaine.....	70	25	40	43	25	13	54	1,779	400
London.....	46	7	37	15	24	16	35	1,092	100
Illinois.....	52	5	30	15	29	12	31	812	75
Conway.....	35	5	52	14	36	9	33	1,250	250
Eden.....	14	14	43	19	15	5	32	657	200
Creek.....	21	3	59	21	19	5	38	1,094	150
Springdale.....	30	8	52	23	18	5	44	1,414	300
Sumner.....	27	12	36	16	20	12	27	1,272	300
Seventy-six.....	37	13	49	29	25	17	28	764	100
Harmon.....	54	3	24	42	13	9	17	490	200
Palestine.....	73	6	13	32	14	11	35	667	150
Oxford.....	33	9	61	30	16	5	52	1,170	150
Avon.....	67	6	16	40	12	5	32	911	250
Wellington.....	33	9	29	23	18	7	23	761	300
Osborne.....	51	10	23	14	20	15	35	901	175
Ryan.....	30	12	47	14	20	8	47	952	100
Dixon*.....	4	3	10	2	5		10	405	250
Morris*.....	2	1	5	2			6	370	200
Chikaskia*.....	14	7	36	12	14	4	27	735	150
Downs.....	23	13	65	35	25	13	28	1,032	200
Jackson.....	46	4	36	30	20	8	28	1,248	300
Greene.....	27	8	38	21	25	2	25	1,125	300
Valverde.....	29	11	63	33	25	6	39	776	150
Walton.....	45	8	101	47	51	5	51	1,331	155
Guelph.....	51	12	57	25	59	18	18	365	50
South Haven.....	74	16	31	19	39	28	35	768	50
Falls*.....	44	9	10	15	19	15	14	415	60
Totals.....	1,081	257	1,078	664	628	268	876	\$25,271	.....

* Incomplete.

is also known to be low, was \$28.85. Applying this average to those replying "Yes" or "Not stated," the total amount of business would mean \$32,996. Applying the same average to those "Not stated" in proportion to those answering "Yes" and "No" proves the total of \$45,488, or applying to the entire number of farmers in the whole county would mean a yearly mail-order business of slightly over \$100,000—a very conservative estimate, to which at least 50 per cent can be safely added.

**Subject: Safe Disposal of Human Excreta at
Unsewered Homes.**

Resolutions presented to the Thirteenth Annual Conference of State and Territorial Health Officers with the United States Public Health Service, Washington, D. C., May 13, 1915.

WHEREAS, Much preventable disease in the United States results from insanitary disposal of human excreta in our rural districts, therefore be it

Resolved, (1) That the promotion of improved methods of disposal of human excreta at unsewered homes is one of the most important duties of municipal, county, state, and national health officials.

(2) That the only disposal methods to be recommended are those which prevent the conveyance—by water, foods, fingers, flies or other agencies—of human excreta to human mouths.

(3) That human excreta not previously treated so as to be rendered free from all living pathogenic agents likely to be contained in such matter should not be deposited in the ground at any place near, and certainly not less than 200 feet from any source of water supply used by persons for drinking or culinary purposes or for washing foods or food containers.

(4) That the places used for the disposal of human excreta in the ground should, wherever practicable, be down hill, and never up hill, from dwellings and from sources of water supply.

(5) That at every place of human abode, and also at schools and churches, either sanitary water closets or sanitary privies should be provided, and these should be used in a cleanly manner.

(6) That in advocating privies for use in the disposal of human excreta, not only proper construction but also proper upkeep and proper use of the same, and proper disposal of contents should be urged.

(7) That in general the only types of privy to be recommended as sanitary are those provided with water-tight receptacles to receive the excreta and so constructed that flies can not have access to the excreta.

(8) That the construction and use of privies such as fly-proof surface privies, unscreened receptacle privies and the so-called "pit privies," which may be improvements over existing privies in certain localities, but which can be made to serve the purpose of sanitary privies only under certain conditions of location, season, and soil formation, should be suggested only as compromises and with a full presentation of their attendant dangers.

(9) That the so-called "pit privies" are especially unsuited for use in sections having limestone or marshy soil formation.

(10) That in recommending an installation or a modification of privies, the principles of sanitary disposal of human excreta should be emphasized.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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JUNE, 1915.

VOL. XI.

CONTENTS.

Morbidity Report for May, 1915	162
Foods and Drugs Report for March, April and May, 1915	164
Food Analyses No. LIV	167
Drug Analyses No. LII	172
Prosecutions Terminated since last report	180
Scales, Weights and Measures Condemned	181
New Division of Child Hygiene	182
Inspection of Egg-breaking Plants	183
The Emergency Room	184
The Itinerant Quack	186
Rabies and Dog Days	188
Summer Care of Babies	189

Now is the time to take your antityphoid inoculation.

"He profits most who serves best."—*Motto of Rotary.*

Topeka has decided to have a full-time health officer. Viva Topeka!

Topeka has six public health nurses. What city of 50,000 can beat it?

The assistant chief food and drug inspector has been appointed hotel commissioner.

The State Tuberculosis Sanatorium at Norton is open to Kansas patients. Address the superintendent.

Now if we had but one public health nurse in each congressional district, there would soon be an appreciable decrease in the number of small coffins sold in Kansas.

Watch us grow:

April BULLETIN: The Kansas Milk Survey.

May BULLETIN: The Sumner County Rural Survey.

June: Field work on Wilson County Survey.

July: New Division of Child Hygiene starts.

MORBIDITY REPORTS FOR MAY, 1915.

Number of cases reported from each county.

											Children per. . . .	Other communicable diseases
											73	22
Allen	0	0	0	0	1	1	0	0	0	0	0	0
Anderson	0	0	0	1	1	15	0	0	0	0	0	0
Atchison, except	0	0	0	0	2	0	0	0	0	0	4	0
Atchison city	0	0	0	0	0	0	0	0	0	10	4	0
Barber*												
Barton	3	0	0	5	9	0	0	0	0	4	0	0
Bourbon, except	1	0	0	0	2	0	0	0	0	0	0	0
Bourbon city	0	1	0	1	74	0	0	0	1	0	0	0
Brown	0	3	0	0	1	0	0	0	0	0	0	0
Butler	1	1	0	7	35	0	0	2	0	1	11	0
Chase	0	0	0	0	0	0	0	0	0	0	0	0
Chautauque	0	1	0	0	1	4	0	0	0	0	0	0
Cherokee	3	0	0	11	1	0	0	2	0	1	0	0
Cheyenne	0	0	0	0	0	0	0	0	0	0	0	0
Clark	0	0	0	0	2	0	0	0	0	0	0	0
Clay	0	0	0	0	0	0	0	0	0	0	0	0
Cloud	0	2	3	0	6	0	0	0	0	3	0	0
Coffey	0	0	0	0	3	9	0	0	0	0	0	0
Comanche	0	0	0	13	4	0	0	0	0	0	0	0
Cowley	0	1	2	1	147	12	0	0	0	0	0	0
Crawford, except	0	3	0	3	4	1	0	0	0	0	0	2
Crawford city	0	0	1	21	0	4	0	0	0	0	0	0
Decatur	0	0	0	0	0	0	0	0	0	0	0	0
Dickinson	1	0	0	0	0	0	0	0	0	0	2	0
Doniphan	0	3	1	4	0	0	0	0	0	0	1	0
Douglas	0	3	0	4	1	0	0	0	0	7	0	1
Edwards	0	0	0	0	0	0	0	0	0	0	0	0
Ellis	0	0	0	0	1	0	0	0	0	0	0	0
Ellis	1	0	0	0	0	0	0	0	0	0	0	0
Ellsworth	0	0	0	0	0	0	0	0	0	7	0	0
Finney	0	0	0	0	0	0	0	0	0	0	0	0
Ford	0	0	0	0	0	0	0	0	0	0	0	0
Franklin	0	1	10	0	0	0	0	0	0	0	0	0
Geary	0	0	1	0	2	0	0	0	0	0	0	0
Gove	0	0	0	0	0	2	0	0	0	0	0	1
Graham	0	0	0	0	1	0	0	0	0	0	0	0
Grant	0	0	0	0	0	0	0	0	0	0	0	0
Gray	1	0	0	0	0	1	0	0	0	0	4	0
Greeley	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood	1	0	0	3	0	0	0	0	0	0	0	0
Hamilton	0	0	0	0	0	0	0	0	0	0	0	0
Harper	0	0	0	5	1	0	0	0	0	0	0	0
Harvey	0	0	0	0	9	1	0	0	0	0	0	0
Haskell	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman	0	0	0	0	0	0	0	0	0	0	0	0
Jackson	0	0	1	0	21	0	0	0	0	0	0	0
Jefferson	0	0	4	0	0	0	0	0	0	3	0	0
Jewell	0	0	0	0	148	0	0	0	0	0	0	0
Johnson*												
Kearny	0	0	1	0	0	0	0	0	0	0	0	0
Kingman	1	0	1	1	4	16	0	0	0	0	0	0
Kiowa	0	0	0	1	1	0	0	0	0	0	0	0
Labette, except	0	0	0	0	0	0	0	0	0	0	0	0
Labette city	0	3	0	0	25	1	0	0	0	0	0	0
Lea	0	0	0	3	0	0	0	0	0	0	0	0
Leavenworth, except	0	0	0	1	1	0	0	0	0	5	0	0
Leavenworth city	1	5	11	0	0	0	0	0	0	13	3	1
Lincoln	0	0	0	0	3	3	0	0	0	10	0	0
Linn	0	0	0	0	0	0	0	0	0	0	0	0

* No report received.

MORBIDITY REPORTS FOR MAY, 1915—Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Malaria.....	Whooping cough.....	Measles.....	Pollara.....	Polomyelitis.....	Mumps.....	Trachoma.....	Chicken pox.....	Other communicable diseases.....
Logan*													
Lyon.....	1	4	0	0	105	1	25	0	0	0	0	1	0
Marion.....	0	0	2	4	2	2	8	0	0	0	0	1	0
Marshall.....	0	0	0	0	0	0	0	0	0	0	0	0	0
McPherson.....	1	0	2	0	8	1	2	0	0	0	0	0	0
Meade.....	0	0	0	1	23	0	0	0	0	0	0	0	0
Miami.....	0	0	0	0	0	0	1	0	0	0	0	0	0
Mitchell.....	0	0	0	0	11	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	0	0	0	14	0	1	0	0	0	0	0	0	0
Morris.....	0	0	0	2	10	0	0	0	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Neosho.....	0	0	0	0	26	26	0	0	0	0	0	0	0
Ness.....	0	0	2	0	0	0	0	0	0	0	0	0	0
Norton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Oage.....	1	0	0	1	36	0	0	0	0	0	0	0	0
Osborne.....	0	0	1	0	102	0	0	0	0	0	0	0	0
Ottawa.....	0	0	0	0	2	1	0	0	0	0	0	0	0
Pawnee.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	0	39	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Pratt.....	1	0	1	0	0	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Reno, except Hutchinson.....	0	0	0	0	3	0	0	0	0	0	0	0	0
Republic.....	5	1	2	3	49	1	18	0	0	0	0	0	0
Rice.....	0	0	0	12	3	1	0	0	0	0	0	0	0
Riley.....	2	0	1	0	1	0	0	0	0	0	0	0	0
Rooks*													
Rush.....	0	0	0	0	7	0	0	0	0	0	0	1	0
Russell.....	0	0	4	0	39	0	0	0	0	0	0	0	0
Saline.....	0	2	1	1	123	3	0	0	0	0	0	0	0
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	1	0	0	2	45	0	0	0	0	0	0	0	0
Seward.....	0	2	3	34	277	7	0	2	0	0	0	0	0
Shawnee, except Topeka.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Sheridan.....	1	0	0	1	104	0	0	0	0	0	0	0	0
Sherman.....	0	0	1	0	1	0	0	0	0	0	0	0	0
Smith.....	0	0	1	0	4	0	0	0	0	0	0	0	0
Stafford.....	0	0	0	0	0	0	0	0	0	0	1	0	0
Stanton*													
Stevens.....	0	0	0	34	0	0	0	0	0	0	0	0	0
Sumner.....	1	2	0	13	109	1	0	0	0	0	0	0	0
Thomas.....	0	0	0	0	10	0	0	0	0	0	0	0	0
Trigo.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wabaunsee.....	0	2	0	1	0	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	3	0	0	0	0	0	0	0
Washington.....	2	0	0	2	1	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	4	0	0	0	31	0	0	0	0	0	0	2	0
Woodson.....	0	0	0	0	2	0	0	0	0	0	0	0	0
Wyandotte, except Kansas City.....	0	1	1	0	0	1	0	0	0	0	0	0	0
Kansas City.....	1	6	9	18	80	8						10	0

* No report received.

Other communicable diseases: Cancer, 3; malaria, 3; syphilis, 2; pneumonia, 7; broncho pneumonia, 1; septic sore throat, 1; erysipelas, 4; ophthalmia neonatorum, 1.

Report of the Division of Food and Drugs, Kansas State Board of Health,

FOR THE MONTHS OF MARCH, APRIL AND MAY, 1915.

LEON A. CONGDON, B. S., Chief of Division.

The following table gives a summary of the inspections and kind of places inspected in 302 towns during the period of this report. There were 2469 inspections made.

SUMMARY OF INSPECTIONS FOR MARCH, APRIL AND MAY, 1915.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Grocery.....	888	441	29	401	17
Grocery and meats.....	386	177	22	169	.....
Meat market.....	169	106	2	59	2
Bakery.....	157	72	9	73	.....
Grocery and bakery.....	5	.....	.....	5	.....
Grocery and confectionery.....	3	2	.....	1	.....
Grocery and feed.....	7	.....	.....	7	.....
Grocery and produce.....	2	.....	.....	2	.....
Grocery and restaurant.....	7	2	1	4	.....
Grocery and fruit.....	1	1	.....	.....	.....
Grocery and cream.....	1	.....	.....	1	.....
Grocery, bakery and meat.....	1	1	.....	.....	.....
Grocery, bakery and feed.....	1	.....	.....	1	.....
Grocery, meat and restaurant.....	1	1	.....	.....	.....
Grocery, pool hall, confectionery and barber shop.....	1	.....	.....	1	.....
Meat and restaurant.....	4	3	.....	1	.....
Meat and confectionery.....	1	.....	1	.....	.....
Meat and drugs.....	1	.....	1	.....	.....
Bakery and restaurant.....	10	4	1	3	2
Bakery and confectionery.....	4	4	.....	.....	.....
Bakery and fountain.....	1	1	.....	.....	.....
Bakery and ice-cream factory.....	2	1	.....	.....	1
Confectionery and candy kitchen.....	89	67	6	16	.....
Confectionery and fruit.....	1	1	.....	.....	.....
Confectionery and soft drinks.....	1	.....	1	.....	.....
Confectionery and ice cream.....	1	1	.....	.....	.....
Confectionery and restaurant.....	3	1	.....	2	.....
Ice-cream parlor.....	1	1	.....	.....	.....
Coffee and tea store.....	5	1	2	2	.....
Seed store.....	3	.....	.....	.....	.....
Fountain at restaurant, pool hall, news stand, etc.....	54	33	9	11	1
Food and drink stand at carnivals.....	11	.....	.....	.....	.....
Special food display inspections.....	52	5	3	8	5
Special dairy investigation inspections.....	12	4	4	1	3
Hay and feed.....	1	.....	.....	.....	.....
Flour and feed.....	1	1	.....	.....	.....
Elevator.....	4	3	.....	.....	.....
Fish market.....	1	.....	1	.....	.....
Slaughter house.....	32	16	.....	13	3
Drug store.....	280	146	40	85	9
Doctor's dispensary stock.....	4	.....	2	2	.....
Miscellaneous stock of drugs and preparations.....	12	8	.....	1	3
Feed mill.....	4	2	.....	.....	.....
Flour mill.....	9	8	.....	.....	.....
Produce.....	2	.....	2	.....	.....
Bottling works.....	31	18	7	6	.....
Candy manufacturers.....	2	2	.....	.....	.....
Candy and ice-cream manufacturer.....	1	1	.....	.....	.....
Ice-cream manufacturers.....	24	17	3	4	.....
Cracker and candy manufacturers.....	1	1	.....	.....	.....
Potato-chip manufacturer.....	1	1	.....	.....	.....
Preserve manufacturer.....	1	.....	.....	1	.....
Extract manufacturers.....	2	1	.....	1	.....
Extract and perfume manufacturer and jobber.....	1	.....	1	.....	.....
Spice mill.....	1	.....	1	.....	.....
Drug manufacturer.....	1	1	.....	.....	.....
Creamery.....	5	4	.....	1	.....
Buttermilk station.....	1	1	.....	.....	.....

SUMMARY OF INSPECTIONS—CONCLUDED.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Special milk investigation, inspections at dairies, etc.....	108	6	4	1	3
Butter inspections at creamery.....	2	2			
Wholesale grocery.....	17	9	2	5	1
Wholesale candy.....	1	1			
Wholesale drugs.....	5	4	1		
Barber supplies.....	2	2			
Toilet goods and proprietaries.....	1	1			
Special measuring device inspections.....	12				
Lined oil inspections.....	17				
Miscellaneous inspections.....	26				
Totals.....	2,469	1,182	151	887	50

Per cent of Sanitation.

(Exclusive of those not classed.)

52.07 per cent good.

6.65 per cent good to fair.

39.07 per cent fair.

2.21 per cent poor.

The above summary of inspections for the period reported upon shows a tendency toward better sanitation of the food and drug establishments. We hope this better condition will continue.

AN EXPLANATION.—In the February BULLETIN of this department, on page 40, under Food Analysis LII, appeared the analysis of some bulk cocoa, inspector's No. 70472, labeled by the wholesaler "Hershey's Powdered Cocoa." The cocoa was shipped into this state by the G. C. Chase Mercantile Company, St. Joseph, Mo., consigned to a retailer, C. A. Amerman, Kingman, Kan. According to our analyst's report, this bulk cocoa contained a high mineral content, which, together with a microscopic examination, indicated the presence of cocoa shell. The sample was therefore declared illegal. Correspondence with the president of the Hershey Chocolate Company, Hershey, Pa., tends to show that a number of rival firms have seized this opportunity to create an impression that this illegal cocoa was made by the Hershey Chocolate Company, Hershey, Pa. We do not state, nor have we stated, that this particular cocoa was made by the company mentioned. The Hershey Chocolate Company state under one of their officers signatures that they do not label their bulk cocoa, but that if such is sent it is sent without a label. To be fair to the Hershey Chocolate Company, Hershey, Pa., we wish to state that

the responsibility in regard to this illegal cocoa lies with the G. W. Chase Mercantile Company, St. Joseph, Mo., and with C. A. Amerman, Kingman, Kan. The fault of labeling this product as "Hershey's Powdered Cocoa" is evidently with the St. Joseph, Mo., firm.

The following table gives the summary of analysis of food and drugs reported to this Division for the months of March, April, and May, 1915:

FOOD.

KIND OF SAMPLE.	Number.....	Passed.....	Misbranded.....	Adulterated.....	KIND OF SAMPLE.	Number.....	Passed.....	Misbranded.....	Adulterated.....
Apple butter.....	7	5			Vanilla and tonka beans....	3			2
Baking powder.....	1	1			Raspberry.....	1			
Beverages:					Strawberry.....	1		1	
Miscellaneous.....	2	1		1	Evaporated milk mixture (Hebe)	2		2	
Temperance.....	1	1			Evaporated fruits:				
"Golden Robin".....			1		Apples.....	1	1		
"Pablo".....	1	1			Peaches.....	2		1	1
"Grape Smash".....	1				Fruits (misc.).....	2			2
Cider.....	12	1	7	1	Fruit butter.....	3	1	1	1
Cider compound.....	1			1	Flour.....	2	1		
Nectar (fruit).....	1		1		Flour (pancake).....	9	7		2
Grapine Nectar Compound..	1		1		Hominy.....	2	1	1	
Grape Tango Beverage.....	1		1		Jam:				
Pop:					Cherry (invest.).....	1			
Cream.....	1			1	Strawberry.....	1			
Lemon.....	1			1	Jam (misc.).....	3	3		
Strawberry.....	1			1	Jamaica Ginger.....	2	2		
Candy.....	6	5	1		Milk products:				
Canned fruits:					Butter.....	3	1	2	
Blackberries.....	12	3		8	Cream.....	11	7		4
Apples.....	1			1	Milk.....	147	120		26
Cherries (invest.).....	1				Milk (skim).....	1			1
Peaches.....	5	2		1	Ice cream.....	25	9		16
Raspberries.....	7	1		5	"Melows" (product for ripening cream).....	1			1
Fruits (reprocessed).....	7				Meat seasoning preparation.....	3	3		
Fruits (invest.).....	53				Mustard (ground).....	2	2		
Canned vegetables:					Pickles.....	56	8	4	44
Vegetables (invest.).....	9				Pepper cayenne.....	1			1
Asparagus.....	4	3		1	Peach butter.....	1	1		
Chili con carne.....	9	6	3		Peach butter (invest.).....	1			
Lye hominy.....	2	2			Pecans.....	1	1		
Peas.....	1	1			Orangeade.....	1		1	
Canned fish:					Rice.....	3	2	1	
Sardines.....	2	2			Swells (invest.).....	1			
Shrimp.....	5	5			Sweet oil or olive oil.....	6	5		1
Chocolate (sweet).....	2	2			Syrups:				
Chocolate (bitter).....	1			1	"Falls".....	1			
Cocoa.....	4	4			"Grapine".....	1		1	
Cod fish.....	1				Solution (Grape-Rite Acid).....	1			1
Extracts and flavors:					Vinegar.....	1			1
Vanilla.....	10	4	5	1					
Vanilla, coumarin and Vanilla.....	2		1	1	Totals.....	474	231	35	124

DRUGS.

KIND OF SAMPLE.	Number.....	Passed.....	Above standard.	Below standard, misbranded....	KIND OF SAMPLE.	Number.....	Passed.....	Above standard.	Below standard, misbranded....
Alcohol.....	1	.....	.....	1	Nitroglycerin comp. tab. (as declared).....	1	.....	.....	1
Arbolone (invest.).....	1	.....	.....	.....	Nitroglycerin tabs. (as declared).....	1	.....	.....	1
Ammonia, aromatic spts.....	2	2	.....	.....	Oil of lemon.....	1	1	.....	.....
Beeswax.....	2	1	.....	.....	Po. cantharides.....	1	1	.....	.....
Black leg vaccine.....	1	.....	.....	1	Po. hyocyanus.....	1	.....	.....	1
Belladonna leaves, powdered.....	1	1	.....	.....	Phenol (liquid).....	1	1	.....	.....
Camphorated oil.....	2	1	.....	1	Po. nux vomica.....	1	1	.....	.....
Carbolic acid.....	2	2	.....	.....	Po. gum asafetida.....	1	1	.....	.....
Castor oil.....	1	1	.....	.....	Preservaline.....	1	.....	.....	1
Capsicum, powdered.....	1	.....	.....	1	Sweet spirits nitro.....	9	2	.....	7
Citric acid.....	1	1	.....	.....	Spirits camphor.....	9	7	.....	2
Calined magnesie.....	1	1	.....	.....	Saltpeter.....	8	2	.....	6
Codeine tab. (as declared).....	1	.....	1	.....	Quinine sulphate.....	1	1	.....	.....
Dilute hydrochloric acid.....	1	1	.....	.....	Tr. iodine.....	4	2	.....	1
Essence of peppermint.....	9	4	.....	5	Tr. ginger.....	3	1	.....	1
Essence of pepain.....	2	2	.....	.....	Tr. arnica.....	1	1	.....	.....
Elixir of pyrophos. of I. Q. & S..	1	1	.....	.....	Tartaric acid.....	2	2	.....	.....
Extract of cod liver oil.....	6	4	.....	2	Tartaric acid solution.....	1	.....	.....	1
Hydrogen peroxide (prep. H ₂ O ₂)	13	7	.....	6	Turpentine.....	5	5	.....	.....
Gopher poison.....	1	.....	.....	.....	White wax.....	1	1	.....	.....
Liquid smoke (invest.).....	1	.....	.....	.....	Witch hazel, extract of.....	1	1	.....	.....
Linseed oil boiled.....	4	4	.....	.....			
Linseed oil raw.....	1	1	.....	.....			
Liquid smoke prep.....	5	.....	.....	.....	Totals.....	119	67	1	40

During the months of March, April, and May, 1915, our inspectors have examined 2106 scales, 5059 weights and 807 measures. They have condemned 11 scales, 33 weights and 7 measures.

We have received Food Analyses No. LIV from our Agricultural College food laboratory, Manhattan, Kan., and also Drug Analyses LII from our University drug laboratory, Lawrence, Kan. The same are herewith transmitted.

Food Analyses No. LIV.

Prof. J. T. WILLARD, Analyst for the Board, and O. A. A. UTT, Associate.

MANHATTAN, KAN., April 23, 1915.

From time to time samples of Graham flour, whole-wheat flour, corn meal, ready-mixed pancake flour and other specialties are submitted for examination with reference to genuineness or sanitary condition. Ready-mixed pancake flours are especially liable to infestation by insects, since they are put up in packages and are liable to be held in stock for some time. The following are the results obtained since our last report on such samples:

PANCAKE FLOUR.

<i>Insp. No.</i>	<i>Seller.</i>	<i>Brand.</i>	<i>Remarks.</i>
90024.	Davis Mercantile Co., Topeka.	Pa-Da-Ra.	Such corn flours as Nos. 90428, 90425, and 90434, are said to be sifted and used in this pancake flour. Remains of beetles, larvæ, etc., found present. Illegal.
90475.	Fraser Bros., Topeka.	Old Mohawk.	Passed as to condition; illegal as to weight.
90476.	Fraser Bros., Topeka.	Ralston.	Passed.
90477.	Fraser Bros., Topeka.	Pa-Da-Ra.	Larvæ and remains of beetles present. Illegal.
90478.	Graser Bros., Topeka.	Eagle.	Passed.
90651.	Smith Bros., Cottonwood Falls.	Good Cheer.	Passed.
90695.	B. L. Hunsley, Larned.	Pickwick.	Passed.
90696.	Jordan & Co., Larned.	Aunt Jemima.	Passed.
90715.	L. E. Hoffman, Nickerson.	Ralston.	Passed.
90716.	M. McCormick, Nickerson.	Punch.	Passed.
90719.	C. F. Propes, Nickerson.		Live larvæ and flour beetles present. Illegal.
90720.	C. F. Propes, Nickerson.		Dead larvæ and beetles present. Illegal.

GRAHAM FLOUR.

6879.	Hogan Milling Co., Junction City.		Illegal.
90683.	Geo. O. Hunt, Great Bend.	Imperial.	Passed.
100048.	A. D. Burt & Co., Eureka.		Passed.
90559.	Bowersock Mill & Power Co., Lawrence.		Twilight whole-wheat flour. Passed.

CORN FLOUR.

90423.	Davis Mercantile Co., Topeka.		Sample has musty odor, and larvæ, etc., present. Illegal.
90425.	Davis Mercantile Co., Topeka.		Sample alive with flour beetles and larvæ in all stages. Illegal.
90434.	Davis Mercantile Co., Topeka.		Sample has musty odor and contains beetles and larvæ. Illegal.
70359.	N. Sauer Milling Co., Cherryvale.		Passed.
70360.	N. Sauer Milling Co., Cherryvale.		Must, dirty. Illegal.

FLOUR AND WHEAT.

The quantity of moisture in flour is important, since the moisture adds nothing to the nutritive value and is subject to more or less variation, depending upon the condition of the wheat, the treatment given the wheat in preparation for milling, and the milling process. The Kansas standards provide that flour may contain not more than 13.5 per cent of moisture. A considerable number of samples in the aggregate have been taken with a view to ascertaining the market conditions concerning flour in this respect. In the preparation of wheat for milling it is necessary to add a certain amount of moisture to toughen the bran in order to separate it from the remainder of the kernel. In the milling process considerable heat is generated, which results in the evaporation of more or less moisture. Sample No. 20663 is of wheat taken before the

water was added for tempering, and No. 20662 is the same wheat after the addition of the tempering water. Flour No. 20661 was made from this wheat, and No. 20660 had been packed for one week. The samples from the Kemper Mill and Elevator Company show the moisture present in the wheat before and after the tempering water was added, and the moisture in the bran and in the three grades of flour produced.

<i>Insp. No.</i>	<i>Manufacturer.</i>	<i>Brand.</i>	<i>Remarks.</i>
20660.	F. M. Kaul & Sons Milling Co., Glen Elder.	Gold Drop flour,	from new wheat. Water, 8.78 per cent. Passed.
20661.	F. M. Kaul & Sons Milling Co., Glen Elder.	Gold Drop,	new-wheat flour. Water, 9.56 per cent. Passed.
20662.	F. M. Kaul & Sons Milling Co., Glen Elder.	Sample of wheat	which had been through tempering process. Water, 11.22 per cent. Passed.
20663.	F. M. Kaul & Sons Milling Co., Glen Elder.	Sample of wheat	taken before tempering. Water, 8.10 per cent. Passed.
20666.	Solomon Valley Milling Co., Osborne.	O. K. flour,	from new wheat. Water, 9.29 per cent. Passed.
20668.	Frank Jackson & Co., Stockton.	Sweet Cake flour,	from old wheat. Water, 9.59 per cent. Passed.
20669.	Frank Jackson & Co., Stockton.	Sweet Cake flour,	from new wheat. Water, 9.35 per cent. Passed.
20672.	J. W. and C. D. Jackson, Kirwin.	Straight Grade flour.	Water, 8.74 per cent. Passed.
20673.	J. W. and C. D. Jackson, Kirwin.	Gilt Edge flour;	packed ten days. Water, 8.01 per cent. Passed.
20674.	C. T. Goodwin, Lenora.	Snow Flake flour,	from old wheat; packed six months. Water, 7.61 per cent. Passed.
20947.	Bushton Roller Mills, Bushton.	Snow Bell flour.	Water, 9.64 per cent. Passed.
20681.	Kemper Mill & Elevator Co., Tonganoxie.	Soft wheat,	taken just before it enters the moistener. Water 11.29 per cent.
20682.	Kemper Mill & Elevator Co., Tonganoxie.	Soft wheat,	taken after moistening. Water, 12.47 per cent.
20683.	Kemper Mill & Elevator Co., Tonganoxie.	Bran from Nos.	20682 and 20863. Water, 13.53 per cent.
20684.	Kemper Mill & Elevator Co., Tonganoxie.	First Grade flour,	from No. 20863. Water, 10.78 per cent. Passed.
20685.	Kemper Mill & Elevator Co., Tonganoxie.	Cuckoo flour,	from hard wheat; packed two weeks. Water, 9.19 per cent. Passed.
20686.	Kemper Mill & Elevator Co., Tonganoxie.	Our Best flour;	packed six weeks. Water, 8.71 per cent. Passed.

BUTTER.

The following samples of butter were tested with reference to moisture and net weight, with the results indicated:

<i>Insp. No.</i>	<i>Seller.</i>	<i>Brand.</i>	<i>Remarks.</i>
90480.	J. R. Lewellen, Sedgwick.	Peerless.	Water, 14.02 per cent; weight, net, $15\frac{7}{16}$ ounces. Passed as to composition; illegal as to weight.
20992.	Lambert Grocery Co., Concordia.	Sunflower.	Water, 12.44 per cent; net weight, $14\frac{15}{16}$ ounces. Passed as to composition; short weight.
70005.	J. Schalker, Leavenworth.	Yellow Rose.	Water, 12.18 per cent; net weight, $14\frac{7}{8}$ and $15\frac{5}{16}$ ounces (two prints). Passed as to composition; short weights.

CONDENSED MILK.

<i>Insp. No.</i>	<i>Seller.</i>	<i>Brand.</i>	<i>Remarks.</i>
70277.	Davis & Co., Parsons.	Gold Cross.	Fat, 7.6 per cent; solids, 21.92 per cent. Illegal.
70286.	Lichty Bros., Wellington.	Honey Bee.	Fat, 8.4 per cent; solids, 28.10 per cent. Passed.
70287.	Lichty Bros., Wellington.	Silver Cow.	Fat, 8.2 per cent; solids, 28.12 per cent. Passed.
70340.	I. N. Davis & Son, Parsons.	Gold Cross.	Two cans in sample. Can No. 1: Fat, 8.3 per cent; solids, 25.74 per cent. Can No. 2: Fat, 8.2 per cent; solids, 25.64 per cent. Passed.
70341.	Saylor Bros., Parsons.	Gold Cross.	Two cans in sample. Can No. 1: Fat, 8.1 per cent; solids, 25.02. Can No. 2: Fat, 8.0 per cent; solids, 25 per cent. Illegal.
70342.	Fred. N. Mills Co., Parsons.	Gold Cross.	Can No. 1: Fat, 8.1 per cent; solids, 25.58 per cent. Can No. 2: Fat, 8.1 per cent; solids, 25.66 per cent. Passed.
70344.	R. J. Morrison & Son, Anna.	Gold Cross.	Fat, 8 per cent in each of the three cans; solids, 26.70, 26.46 and 26.56 per cent, respectively. Passed.
90881.	Lundbloom & Roseberg, McPherson.	Danish Prize.	Fat, 8.4 per cent; solids, 26.22 per cent. Passed.
70412.	W. H. Barger, Eureka.	Danish Prize.	Fat, 7.8 per cent; solids, 26.71 per cent. Passed.
90410.	McCord-Kistler, Topeka.	Golden Key.	Fat, 8.8 per cent; solids, 27.2 per cent. Passed.

ASPARAGUS.

Asparagus seems especially liable to corrode the tin of the cans in which it is preserved. The samples in the following list which are marked illegal contained more than 300 milligrams of tin per kilogram of asparagus. The cans showed marked corrosion.

<i>Insp. No.</i>	<i>Seller.</i>	<i>Brand.</i>	<i>Remarks.</i>
90652.	Smith Bros., Cottonwood Falls.	River View.	Tin, 336 m. per kg. Illegal.
90653.	Smith Bros., Cottonwood Falls.	Mission.	Tin, 312 mg. per kg. Illegal.
90654.	Smith Bros., Cottonwood Falls.	Griffin's.	Tin, 344 mg. per kg. Illegal.
90656.	Jeffrey Mercantile Co., Elmdale.	F. F. O. G.	Tin, 272 mg. per kg. Passed.
90657.	W. W. Harvey, Strong City.	Acropolis.	Tin, 358 mg. per kg. Illegal.
90658.	J. C. Petty, Strong City.	Oak.	Tin, 234 mg. per kg. Passed.
90700.	Jordan & Co., Larned.	F. F. O. G.	Tin, 201 mg. per kg. Passed.
90708.	Henry D. Back, Ellinwood.	Exposition.	Tin, 279 mg. per kg. Passed.
90709.	Henry D. Back, Ellinwood.	Telmo.	Tin, 386 mg. per kg. Illegal.
90710.	Henry D. Back, Ellinwood.	Natural Flavor.	Tin, 429 mg. per kg. Illegal.

CANNED CORN, PEAS, PORK AND BEANS.

<i>Insp. No.</i>	<i>Seller.</i>	<i>Brand.</i>	<i>Remarks.</i>
90263.	Torgeson Bros., White City.	Anvil.	Water, 77.35 per cent; solids, 22.65 per cent. Passed.
90265.	Dibble Grocery Co., Topeka.	Tennis Girl.	Can No. 1, $\frac{3}{4}$ ounce short, and No. 2, $\frac{5}{8}$ ounce short of the average weight on label, 20 $\frac{1}{2}$ ounces. Illegal as to weight.
90289.	Dibble Grocery Co., Topeka.	Evergreen Valley (peas).	Liquor, 8 $\frac{3}{4}$ ounces; peas, 12 $\frac{1}{16}$ ounces. Net weight of cans more than the 20 ounces on label. Passed.
90626.	O. A. Wimmer, Mercantile Co., Scott City.	Walker's Hog & Hominy.	Tin, 581 mg. per kg. Cans badly corroded. Illegal.
90669.	H. W. Dickson, Rosemont.	Park Pork and Beans.	Passed.
90670.	H. W. Dickson, Rosemont.	Park Pork and Beans.	Passed.

SAUSAGE.

90491 $\frac{1}{2}$.	I. H. Poland, Oakland.	Water, 55.9 per cent; starch, 1.8 per cent; no preservatives.	Passed.
07001.	R. E. Kaitner, Leavenworth.	Water, 54.14 per cent; starch, 0.98 per cent; no preservatives.	Passed.
07002.	J. E. Fillers, Leavenworth.	Water, 51.48 per cent; starch, 0.84 per cent; no preservatives.	Passed.
07006.	Albert Gansz, Leavenworth.	Water, 56.7; starch, 0.6 per cent; no preservatives.	Passed.

MISCELLANEOUS.

70258. Jello Ice Cream Powder. Sold by J. T. Lancaster, Parsons. An artificially colored and flavored mixture of sugar and gelatin. The directions, in part, are: "Dissolve the contents of the package in a quart of milk, or if you wish it very rich use three-fourth milk and one-fourth cream." These directions would not result in the production of an ice cream that would be standard in respect to butter fat. The material itself is harmless, but thickeners are not included in the materials of ice cream specified by the Kansas standard.

70260. Purity Ice Cream Powder. Sold by S. C. Knisley, El Dorado. Chiefly gum tragacanth. No preservatives. Passed.

70263. Harvest Home Ice Cream Powder. Sold by N. Hunsinger, Leon. A mixture of gelatin and sugar with artificial color, and flavor of lemon. The directions for use would not result in the production of a preparation with the necessary amount of milk fat for legal ice cream.

70263. Snyder's Ice Cream Powder. Sold by Warren & Warren, Pretty Prairie. Largely gum tragacanth. The directions for use would not produce a preparation with sufficient milk fat to meet the requirements for legal ice cream. No preservatives.

70250. Rolling Pin Ice Cream Fluff. Sold by J. Glide, Fredonia. Seems to be mainly gum tragacanth. No preservatives. Passed.

70269. Gumpert's Kreme Thickening. Sold by Geo. Pappadakes, Pittsburg. Seems to be largely gum tragacanth. No preservatives. Passed.

70413. Hipolite's Snow Mellow. Sold by W. H. Boyer, Eureka. This article is used for mixing with sugar for the preparation of cake frosting. It contains corn starch, gelatin and saponin. The presence of saponin makes it illegal.

70278. Keystone Gelatine. Sold by John Tutcher, Parsons. Slight reaction for sulphites, probably used in bleaching.

90452. Meringue. Seller, G. L. Wooley, Topeka. This preparation is used instead of white of egg in making pies. It is largely powdered sugar and corn starch, but gives reactions for albumen, and also seems to contain gelatin. No gums are present and no preservatives. Passed.

70411. Kay-Bee Skimmed Milk Powder. Sold by Sherman & Sherman, Reese. The label on the package containing this powder implies

that it is obtained by the evaporation of skimmed milk. It contains 4.96 per cent of nitrogen, equivalent to 31.2 per cent of protein, and the total solids are 95.82 per cent. The net weight of 15 ounces is said to be sufficient for five quarts of liquid. This would give a liquid approximating skimmed milk in composition. Passed.

70381. **The Best Sausage Seasoning.** Sold by Siefkin & Pieper, Humboldt. This is a yellowish-brown powder with the odor and flavor of nutmeg and pepper. It contains common salt, saltpeter, traces of sulphates, brown sugar, rye flour, nutmeg, pepper, red pepper, and pepper hulls. It is said to be used in the manufacture of Frankfort sausage. Passed.

6872. **"A Sephfume."** Manufactured by B. Heller & Co., Chicago, and sold by T. J. Dorie, Horton. This is a grayish powder designed for burning in ice boxes or refrigerators for the purpose of purification. It is a mixture of powdered charcoal and sulphur. It would serve as a disinfectant, but is no more effective than sulphur, while carrying something of an air of mystery.

Drug Analyses LII.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst;
O. M. STERLING, Microscopist.

In this fifty-second report, little space will be devoted to special comments, inasmuch as the material itself is quite voluminous and self-explanatory. It would be well, however, to make a few comments on recent legislation which confirms the federal law known as the Shirley Act, in order to give advanced notice to pharmacists. The legislature of the state of Kansas, at its last session, has made it a criminal offense (senate bill No. 229) to publish or circulate in the state, whether by newspaper publication or otherwise, or by label or advertisement, regarding merchandise offered to the public, anything which contains any assertion or statement which is in fact untrue, deceptive or misleading. A fine in any sum not exceeding \$500, or by imprisonment not exceeding one year, or both, is the penalty.

The problem of the pharmacist will be to decide what will constitute a false or misleading statement in connection with proprietary and patent medicines. It may be difficult to draw a sharp line between actual fact and "false and misleading" statements. There are some statements made on circulars and labels which are plainly of the latter class. The British Pharmaceutical Conference has enumerated some of these statements, which clearly belong to the latter. For example: "The best remedy for consumption"; "Cures Bright's disease"; "It never fails to cure cancerous ulcers, syphilis, piles, rheumatism, gout, dropsy"; "Bright's disease, stone in the bladder, dropsy, eczema, scrofula, can be speedily cured"; "The abso-

lute specific for all or some of their phases of syphilis, and every form of venereal disease"; "Applied freely, will cure lumbago or sciatica in one night," etc.

It will be the desire of the laboratory to coöperate with pharmacists to eliminate this class of statements, so that the reform in this direction will be gradual and effective.

DILUTED HYDROCHLORIC ACID.*

Lab. No.	Insp. No.	NAME.	City.	Per cent acid.	Impurities.
6569	21025	W. H. Stone.....	Kansas City.....	10.32	None.
6650	21241	Fleming Pharmacy.....	Manhattan.....	10.88	None.

* Diluted hydrochloric acid should contain 10 per cent by weight of absolute HCl, and should otherwise conform to reactions and tests for acid hydrochloricum

LIQUEFIED PHENOL.*

Lab. No.	Insp. No.	NAME.	City.	Per cent phenol.
6724	21316	Owl Drug Store.....	Leavenworth.....	89.8
6736	21331	A. E. Topping.....	Overbrook.....	87.4
6737	21332	A. R. Ingleman.....	Overbrook.....	87.2

* Liquefied phenol should contain not less than 86.4 per cent absolute phenol.

CASTOR OIL.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Sapon. value.	Iodin. number.	Solubility in alcohol.
6571	21027	Alex. T. Gibler.....	Topeka.....	.....	183.9	84.3	Equal volumes.
6597	21127	F. P. Kibbey.....	Junction City.....	.....	179.8	85.7	Equal volumes.
6662	21266	Central Mer. Co....	Hutchinson.....	.969	179.39	84.15	Equal volumes.

* Castor oil should have specific gravity .945-.965 at 25° C.; should be soluble in equal volumes of alcohol; should have iodine number, 84-89, and saponification value, 179-188.

CAMPHORATED OIL.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Per cent camphor.
6634	80525	Tom Arnold.....	Pittsburg.....	.926	19.02
6642	21232	Brokaw & McKnight.....	Hiawatha.....	.926	13.25

* Camphorated oil should contain about 20 per cent camphor.

ESSENCE OF PEPSIN.*

Lab. No.	Insp. No.	NAME.	City.	Cc. undigested albumin.
6566	21021	W. E. Bodley.....	Kansas City.....	43
6643	21233	T. Stevens.....	Hiawatha.....	1
6659	80582	Briggs Bros.....	Hiawatha.....	1

* Essence of pepsin, when freshly prepared, should show, by U. S. P. assay, not more than 1 cc. undigested albumin.

NITROGLYCERIN TABLETS.
(.01 grain.)

Lab. No.	Insp. No.	NAME.	City.	Grains nitro-glycerin per tablet.
6556	21013	A. M. Lowellen.....	Gaylord.....	.0096
6560	21019	Dr. B. A. Isenberg.....	Aiton.....	.0083
6609	21203	A. Jennings.....	Clay Center.....	.0059
6716	21306	Dr. R. B. Houston.....	Baileyville.....	.0065

GUM ASAFCETIDA.*

Lab. No.	Insp. No.	NAME.	City.	Alcohol soluble.	Per cent ash.
6685	21286	Dr. Jewett Drug Co.....	Esbridge.....	57.72	11.87
6696	21126	Central Pharmacy.....	Junction City.....	77.85	8.26

* Asafœtida should contain not less than 50 per cent matter soluble in alcohol and not more than 15 per cent ash.

AROMATIC SPIRIT OF AMMONIA.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Per cent NH ₃ .	Cc. oil per litre.
6612	21207	Marshall's Drug Store....	Clay Center.....	.893	1.92	10.0
6652	21243	Norman E. Engel.....	Manhattan.....		1.87	9.6

* Aromatic spirit of ammonia should show an alkalinity of not less than 1.8 per cent NH₃ and should contain 10 cc. oil per 100 cc. of the preparation.

BEESWAX.*

Lab. No.	Insp. No.	NAME.	City.	M. P.	Specific gravity.	Acid number.	Ester number.	Remarks.
6575	21031	M. A. Funches.....	Topeka.....	47-54°	.923	62.4	4.9	Adulterated.
6577	21033	Depot Pharmacy.....	Topeka.....	64.5	.967	25.1	82.0	Passed.
6582	21038	Kelley's Pharmacy.....	Topeka.....	64.5	.956	19.3	75.8	Passed.
6583	21039	Kelley's Pharmacy.....	Topeka.....	60.0	.908	2.9	6.5	Adulterated.
6600	21166	J. M. Gleisner & Son....	Abilene.....	53.0	.906	2.3	2.9	Adulterated.
6601	21167	J. M. Gleisner & Son....	Abilene.....	64.0	.962	21.7	78.3	Passed.
6621	21223	F. R. Ireland.....	Wellsville....	64.0	.956	18.4	77.5	Passed.
6732	21317	J. C. Whitmer & Co.....	Nortonville....		.954			

* According to Ninth Revision of U. S. P., beeswax should have specific gravity, .950 to .960; melting point, 62°-65° C.; acid value, not less than 18 and not more than 24; ester value, not less than 72 nor more than 77.

WHITE WAX.*

Lab. No.	Insp. No.	NAME.	City.	M. P.	Specific gravity.	Acid number.	Ester number.	Remarks.
6576	21032	M. A. Funches.....	Topeka.....	58-60°	.901	.9	6.76	Adulterated.
6578	21034	Depot Pharmacy.....	Topeka.....	65	.968	18.1	74.9	Passed.
6580	21035	Elmhurst Pharmacy.....	Topeka.....	†.....	.907	.48	4.1	Adulterated.
6581	21037	Kelly's Pharmacy.....	Topeka.....	65	.956	17.9	74.3	Passed.
6723	21315	Orpheum Pharmacy.....	Leavenworth....		.953	16.6	76.0	Passed.

* According to Ninth Revision of U. S. P., white wax should have specific gravity, .950-.960 at 25°; melting point, 62-65° C.; acid value, not less than 18 and not more than 25; ester value, not less than 72 and not more than 79.

† Not definite.

TINCTURE OF IODIN.*

Lab. No.	Insp. No.	NAME.	City.	Grams I per 100 cc.	Grams KI per 100 cc.
6535	21011	Geo. N. Hartwell, M. D.....	Jamestown.....	3.83	None.
6567	21023	Tom Lilly.....	Kansas City.....	7.62	5.53
6573	21029	Alex. T. Gibler.....	Topeka.....	6.60	4.56
6517	21219	H. P. Johnson.....	Pomona.....	7.04	5.72
6579	21257	M. R. Bridges.....	Home.....	6.87	3.88
6631	80532	Scott-Lanyon.....	Pittsburg.....	6.82	5.14
6645	21235	W. W. Geiger.....	Everest.....	6.47	4.46

* Tincture of iodine should show by assay not less than 6.86 gm. iodine and about 5 grams potassium iodide per 100 cc. of the tincture.

ESSENCE OF PEPPERMINT.*

Lab. No.	Insp. No.	NAME.	City.	Cc. of oil per 100 cc. essence.	Added water.
6623	21225	E. E. Armstrong.....	Gardner.....	8.6	None.
6633	80824	L. W. Ash.....	Pittsburg.....	10.0	None.
6641	21231	Reserve Drug Store.....	Reserve.....	9.4	None.
6649	21240	Chandler Pharmacy.....	Marysville.....	6.8	None.
6657	80534	Scott-Lanyon.....	Hutchinson.....	10.4	None.
6677	100079	Chandler Pharmacy.....	Marysville.....	8.8	None.
6680	21258	M. R. Bridges.....	Home.....	8.8	None.
6747	21239	Symms Wholesale Grocery.....	Atchison.....	2.76	None.
6648	21239	D. von Riesen.....	Marysville.....	9.6	None.

* Essence of peppermint should contain 10 cc. oil per 100 cc. of essence, and no added water.

SPIRIT OF CAMPHOR.*

Lab. No.	Insp. No.	NAME.	City.	Grams camphor per 100 cc.	Added water.
6619	21221	Pomona Fruit Co.....	Pomona.....	10.05	None.
6624	21226	E. E. Armstrong.....	Gardner.....	9.3	None.
6630	80521	D. Hogeboom.....	Pittsburg.....	†.....	.....
6637	80529	Pittsburg Drug Co.....	Pittsburg.....	9.1	None.
6646	21236	A. P. Hoppel.....	Lancaster.....	9.08	None.
6656	80533	Scott-Lanyon.....	Hutchinson.....	10.0	None.
6661	80535	E. E. Bloom & Co.....	Hutchinson.....	9.93	None.
6700	21267	Central Mercantile Co.....	Hutchinson.....	8.79	4.88
6730	21325	L. M. Wests.....	Denison.....	10.8	None.
6746	21338	Symms Grocery Co.....	Atchison.....	8.37	None.
6678	21256	M. R. Bridges.....	Home.....	9.0	None.

* Spirit of camphor should contain 10 grams of camphor per 100 cc. and no added water.

† Broken in transit.

OIL OF TURPENTINE.*

Lab. No.	Insp. No.	NAME.	City.	Specific gravity.	Solubtl. in alcohol.	Per cent distilled between 155° and 162°.	Per cent nonvolatile residue.
6557	21014	A. J. Archer.....	Dinamore.....	.869	3 vols.	75.0	1.87
6598	21164	Northcraft & Co.....	Abilene.....	.863	3 vols.	74.0	0.56
6607	21201	Barker & Funk.....	Clay Center.....	.863	3 vols.	83.5	0.64
6610	21206	Held's Book & Drug Store	Clay Center.....	.864	3 vols.	85.0	0.78
6611	21206	J. L. Hoover.....	Clay Center.....	.865	3 vols.	85.0	1.12
6664	21268	Central Mer. Co.....	Hutchinson.....	.862	3 vols.	88.0	0.21
6719	21311	J. B. Michell.....	Robinson.....	.865	3 vols.	72.0	0.92

* Oil of turpentine should have specific gravity, .860-.870 at 25° C.; the larger part of the oil should distil between 155° and 162° C.; should be soluble in three times its volume of alcohol, and should otherwise conform to the U. S. P. standard.

SWEET SPIRIT OF NITRE.*

Lab. No.	Insp. No.	NAME.	City.	Per cent ethyl nitrite.	Acidity.
6561					
6562	70475	Metser & Morey	Chicopee	Trace	
6620	21222	Pomona Fruit Co.	Pomona	4.25	
6625	21227	Geo. D. Whitney	Olathe	2.66	Exceeds limit.
6626	21228	Sam. J. Kelly	Olathe	1.91	Exceeds limit.
6627	21229	Collard-Norris	Olathe	4.50	
6651	21242	H. S. Willard & Co.	Manhattan	2.18	Exceeds limit.
6675	21263	Sentry Wholesale Grocery Co.	Hutchinson	0.39	Exceeds limit.
6676	21264	Sentry Wholesale Grocery Co.	Hutchinson	0.79	Exceeds limit.
6717	21308	H. E. Jenkins	Seneca	2.19	Exceeds limit.
6722	21314	Orpheum Pharmacy	Leavenworth	1.14	Exceeds limit.

* Sweet spirit of nitre, when freshly prepared, should yield not less than 4 per cent ethyl nitrite.

SALTPETER.*

Lab. No.	Insp. No.	NAME.	City.	Per cent KNO ₃	Remarks.
6592	10006 I	H. G. Whittle	Bern		Largely sodium chloride.
6715	21305	H. G. Whittle	Bern		Largely sodium chloride.
6739	21335 A	Dolan Mercantile Co.	Atchison	40.85	Largely sodium chloride.
6740	21335 B	Dolan Mercantile Co.	Atchison	17.38	Largely sodium chloride.
6741	21335 C	Dolan Mercantile Co.	Atchison	34.64	Largely sodium chloride.
6742	21335 D	Dolan Mercantile Co.	Atchison	6.69	Largely sodium chloride.
6743	21335 E	Dolan Mercantile Co.	Atchison	39.26	Largely sodium chloride.
6744	21336	Wherrit-Mise	Atchison	†	Trace of chloride. Passed.
6745	21337	Wherrit-Mise	Atchison	†	Trace of chloride. Passed.

* Saltpeter should contain at least 99 per cent of the pure salt, and should otherwise conform to the U. S. P. standard.
† Not less than 99 per cent.

POWDERED MUSTARD.*

Lab. No.	Insp. No.	NAME.	City.	Brand.	Vol. matter at 110° C.	Ash.	Petroleum ether extract.	Foreign starch.
6644	21234	C. K. Finley	Hiawatha		4.9	4.57	33.7	
6654	91242	Sentry Wholesale Co.	Hutchinson	Murdoek	5.7	5.06	27.8	None.
6655	91245	Sentry Wholesale Co.	Hutchinson	Bulk	5.73	5.00	28.14	None.
6667	91277	Hutch. Whol. Gro. Co.	Hutchinson	Bulk	6.9	5.47	16.4	None.
6668	91278	Hutchinson Wholesale Grocery Co.	Hutchinson	Golden Robin	6.5	5.02	18.3	None.
6669	91281	Guymon Petro Mer. Co.	Hutchinson	Bulk	5.45	5.15	29.07	None.
6670	91282	Guymon Petro Mer. Co.	Hutchinson	Montro	7.09	5.52	26.0	None.
6671	91283	Guymon Petro Mer. Co.	Hutchinson	Montro	5.65	4.95	29.5	None.
6672	91300	Central Mer. Co.	Hutchinson	Red Riding Hood	6.7	5.3		None.
6673	91301	Central Mer. Co.	Hutchinson	Bulk	6.0	4.83	29.3	None.
6682	21261	John A. Brown	Washington	Bulk	5.28	4.93	21.0	None.
6683	21262	Palace Drug Store	Washington		4.51	5.16	23.9	None.

* Powdered mustard should not contain more than 2.5 per cent starch and not more than 8 per cent total ash.

TINCTURE OF GINGER.*

Lab. No.	Insp. No.	NAME.	City.	Per cent alcohol.	Solids per 100 cc.
6632	80523	L. W. Ash.....	Pittsburg.....	84	0.702
6636	80528	Pittsburg Drug Co.....	Pittsburg.....	†.....	.....
6640	21230	Ideal Drug Store.....	Lenexa.....	68	0.290
6660	80537	T. L. Volts.....	Hutchinson.....	90	0.778
6684	21278	Talmage Drug Store.....	Talmage.....	.....	0.616
6748	100097	L. W. Ash.....	Pittsburg.....	93	0.880

* Tincture of ginger should contain about 91 per cent absolute alcohol and not less than .800 gm. solids per 100 cc.

† Broken in transit.

PEROXIDE OF HYDROGEN.*

Lab. No.	Insp. No.	NAME.	City.	Per cent H ₂ O ₂ .	Gms. solids in 20 cc.	Remarks.
6574	21020	C. S. Pope.....	Topeka.....	3.56	.0203	Barium present.
6622	21234	F. R. Ireland.....	Wellsville.....	2.39	.0305	
6629	80520	J. Hogeboom.....	Pittsburg.....	2.24	.0224	
6638	80530	Montee Bros.....	Girard.....	3.22	.0188	
6639	80532	Briggs Bros.....	Hutchinson.....	3.26	.0117	
6666	21270	Central Mercantile Co....	Hutchinson.....	2.47	.024	
6687	21288	W. Trusler.....	Eakridge.....	2.96	.0303	
6689	21290	E. T. Price.....	Burlingame.....	3.43	.0210	
6691	21296	O. P. Barber & Son.....	Lawrence.....	1.88	.0209	
6692	21298	D. Clarke Kelly.....	Bonner Springs.....	3.2	.0260	
6707	91317	W. B. & S. L. Plyley.....	Burlingame.....	3.34	.0331	No Sample.
6708	91320	Davis Bros.....	Wilsey.....	3.13	.0261	
6712	21303	S. S. Kresge & Co.....	.....	3.20	.0280
6713	21304	F. W. Woolworth.....	Topeka.....	3.19	.027	
6714	21304½	Smith and Lindsey.....	Powhattan.....	.....	.....
6725	21317	Putnam Drug Co.....	Leavenworth.....	3.37	.0219	
6729	21324	J. Uhl Mercantile Co....	Leavenworth.....	2.85	.0299	
6733	21328	Rock Mercantile Co.....	Rock Creek.....	2.80	.0332	
6749	100100	Peroxide Spr. Co.....	St. Louis.....	2.77	.0280	
6750	100101	Central Mercantile Co....	Hutchinson.....	1.74	.0274	Barium present.

* Hydrogen peroxide should contain, when freshly prepared, 8 per cent H₂O₂. The total solids in 20 cc. should not exceed .08 gm. Barium, arsenic, hydrofluoric acid and heavy metals should be absent and should otherwise conform to the U. S. P. standard.

BOILED LINSEED OIL.*

Lab. No.	Insp. No.	NAME.	City.	Acid value.	23° C. Spec. grv.	Sapon. value.	Iodin value.	Drying test.
6686	21287	W. Trusler.....	Eakridge....	5.3	0.928	184.0	173.3	20 hours.
6709	100084	J. T. Hallonk.....	Gretna.....	2.94	0.928	193.5	179.0	20 hours.
6718	21310	J. P. Koelzer Lbr. Co.	Seneca.....	†.....	.....	191.2	179.38	24 hours.
6726	100094	Dr. C. M. Miller.....	Oakley.....	.....	0.936	190.2	167.3	20 hours.

* Boiled linseed oil should have specific gravity at 60° F., not less than .935; saponification value, not less than 186; iodine number, not less than 160. Its acid value should not exceed 10. The film left after flowing over a glass plate and left to dry in vertical position must dry free from tackiness in not to exceed 20 hours at a temperature of about 70° F., and should otherwise conform to the standard as found in house bill No. 184.

† Special sample.

SMOKE SUBSTITUTES.

Lab. No.	Insp. No.	Brand.	Retailer.	City.	Per cent acetic acid.	Specific gravity.	Methyl alcohol.	Solids in 100 cc.
6570	21026	Wrights.....	A. M. Petro.....	Topeka.....	5.7	.....	Present.	.....
6604	91148	Pyrolygenous acid..	Johnson.....	Newton....	4.81	1.011	Present.	1.373
6606	91147	Condensed Smoke..	J. B. Dickey.....	Newton....	5.76	1.015	Present.	1.520
6606	91149	Figaro Preservar...	F. B. Peters.....	Newton....	4.24	1.037	Present.	8.183
6608	21202	Wilson.....	Gramly's.....	Clay Center,	8.71	1.024	Present.	2.922
6615	21217	Brookfield.....	Dr. C. C. Stillman,	Morganville,	4.7	1.015	Present.	2.714
6695	21300	Raymonds.....	Evans Drug Co....	Lawrence...	6.09	1.016	Present.	8.349

Lab. No. 6559, Insp. No. 21018. Tr. Opium. Woodston Pharmacy, Woodston. Contained 1.126 gm. morphine per 100 cc.

Lab. No. 6565, Insp. No. 21020. Cod Liver Oil. Wood & Caldwell, Kansas City. Specific gravity, .9229; refractive index at 20°, 1.4787; iodine number, 145.3; saponification value, 184.4. Negative test for seal oil and other fish oils. Passed.

Lab. No. 6568, Insp. No. 21024. Morphine Sulphate Tablets, $\frac{1}{4}$ grain. Red Cross Pharmacy, Kansas City. Contained .3 grain morphine sulphate. Passed.

Lab. No. 6572, Insp. No. 21028. Comp. Licorice Powder. Alex. T. Gibler, Topeka. Sugar, 50.4 per cent; sulphur, 7.65 per cent; ash, 5.03 per cent; senna and glycyrrhiza were present. Passed.

Lab. No. 6579, Insp. No. 21035. Oil of Sandalwood. Elmhurst Pharmacy, Topeka. Polarization, 24.7; not soluble in 5 parts 70 per cent alcohol. Sample is oil *Amyris balsamifera* or West Indian oil sandalwood.

Lab. No. 6593, Insp. No. 21123. Tr. Asafoetida. Leon Nagel, Belvue. Nonvolatile solids per 100 cc., 7.467 gm. Passed.

Lab. No. 6594, Insp. No. 21129. Powdered Belladonna Leaves. Volz & Birch, Junction City. Contained mydriatic alkaloids, 0.31 per cent. Passed.

Lab. No. 6595, Insp. No. 21125. Powdered Hyoscyamus. Volz & Birch, Junction City. Contained .021 gm. mydriatic alkaloids per 100 grams. Declared to contain .05 per cent alkaloidal principles.

Lab. No. 6599, Insp. No. 21165. Powdered Nux Vomica. Palace Drug Co., Abilene. Contained 1.274 gm. strychnine per 100 gm. Passed.

Lab. No. 6602, Insp. No. 21186. Elixir Digestive Compound. Imperial Drug Store, Hope. Showed by official assay, 7.5 cc. undigested albumin.

Lab. No. 6618, Insp. No. 21220. Oil of Lemon. H. B. Johnson, Pomona. Polarization in 100 mm. tube, 59.53; refractive index at 20° C., 1.4752; specific gravity, .8537; citral, 3.96 per cent. Passed.

Lab. No. 6635, Insp. No. 80526. Tincture of Arnica. S. & L. Drug Co., Pittsburg. Contained extractive, 4.044 gm. per 100 cc.; alcohol, 45 per cent. Passed.

Lab. No. 6647, Insp. No. 21238. Powdered China Cantharides. Hefard & Rueker, Sabetha. No foreign substance detected. Passed.

Lab. No. 6658, Insp. No. 21254. Citric Acid. E. L. Nevins, Blue Rapids. 99.68 per cent citric acid. Passed.

Lab. No. 6674, Insp. No. 91302. Pepper. The Central Merc. Co., Hutchinson. Volatile matter at 110°, 11.6 per cent; ash 5.6 per cent; petroleum ether extract, 6.2 per cent; no foreign substance detected. Passed.

Lab. No. 6681, Insp. No. 21260. Codeine Tablets, $\frac{1}{4}$ grain. Smith Drug Co., Washington. Contain codeine sulphate.

Lab. No. 6702, Insp., No. 21269. Quinine Sulphate. Central Merc. Co., Hutchinson. Organic impurities absent; inorganic impurities, trace. Does not exceed limit for other cinchona alkaloids. Passed.

Lab. No. 6704, Insp. No. 21302. Witch Hazel. S. S. Kresge & Co., Topeka. Alcohol, 13.6 per cent; solids per 100 cc., .0068. Passed.

Lab. No. 6710, Insp. No. 100085. Raw Linseed Oil. J. H. Bailey, Burr Oak. Specific gravity, .929; saponification value, 93.2; iodine number, 178.5; dries within 72 hours. Passed.

Lab. No. 6721, Insp. No. 21313. Alcohol. H. A. Lueble, Horton. Investigation sample; contained a fixed oil.

Lab. No. 6728, Insp. No. 21323. Calcined Magnesia. W. F. Kirkpatrick, Winchester. Water of hydration, 7.1 per cent; MgO after ignition, 96.4 per cent; shows slight excess CO₂; negative test for calcium. Does not show excess of iron. Passed.

Lab. No. 6731, Insp. No. 21326. Iron Pyrophosphate Quinine and Strychnine. Dr. Milton Cain, McLouth. Specific gravity, 1.0994; total anhydrous alkaloids per 100 cc., .651 gm. Passed.

Lab. No. 6734, Insp. No. 21329B. Tartaric Acid. Kross Bros., Topeka. Within limit for sulphates. Shows not more than trace of lead. Passed.

Lab. No. 6735, Insp. No. 21330. Tartaric Acid sol. Kross Bros., Topeka. Contained 39.6 per cent acid. Shows less than 5 parts per million lead. Sulphates exceed limit.

Lab. No. 6335, Insp. No. 07007. Instant Postum. G. A. Chapen, Belleville. Postum Cereal Co., Battle Creek. Moisture, 10.5 per cent; ash, 5.88 per cent; insoluble ash, 3.37 per cent; protein, 5.62 per cent; reducing sugar, 6.4 per cent; alkalinity soluble, .7 cc. N/1 H₂SO₄. Responds to test for cereal.

Lab. No. 6454, Insp. No. 20951. Cassidy's Herbs. R. J. Cassidy, Russel. No sample.

Lab. No. 6558, Insp. No. 21017. Gran. Effervescent Aspirin. No aspirin present. Evidently had all decomposed.

Lab. No. 6564, Insp. No. 90819. Rocky Mountain Hydro-Mineral. Dr. Powers, Lawrence. A solution of starch in weak sodium hydroxide solution.

Lab. No. 6584, Insp. No. 100051. Sandol. Disinfectant and Deodorant. J. N. McCloud, Topeka. Total solids per 100 cc., 4.4 gm. Contains oil of spike; ammonium chloride, 0.864 gm.; potassium chlorate, 1.33 gm.; magnesium chloride, .022 gm.; sodium chloride, 1.64; sodium carbonate, .55 gm. No free sulphur or carbon present.

Lab. No. 6591, Insp. No. 100059. Pep-O-Mint. Mint Confection. Mint Products Co., New York. Completely soluble in diluted alcohol. No talc detected. Showed no digestive action on egg albumin. Presence of digestive ferment not declared by manufacturer.

Lab. No. 6613, Insp. No. 70559. Cayenne Pepper. Ash, 5.2 per cent; ash insoluble in HCl, .75 per cent; ether extract, 16.84 per cent. Contains some foreign starch. Thought to contain poison. No poison detected.

Lab. No. 6614, Insp. No. 70560. Powdered Capsicum. Ether extract, 16.5 per cent. Contains some foreign starch.

Lab. No. 6616, Insp. No. 21218. Golden Robin. Mrs. L. M. Evans, Cleburne. Contained alcohol, 1.9 per cent.

Lab. No. 6628, Insp. No. 100064. Black Leg Vaccine. Dr. W. Wiseman, Delphos. Contains mercury, powdered rhubarb and fatty base, principally tallow; 28.8 per cent mercury present.

Lab. No. 6688, Insp. No. 21289. Wahoo Bitters. E. T. Price, Burlingame. Magnesium sulphate per 100 cc., 4.25 gm.; extractive, .938 gm.; salicylic acid, 0.241 gm. Responds to test for wild cherry. Responds slightly to test for emodin. No alcohol present.

Lab. No. 6690, Insp. No. 21295. Wampole's Perfected and Tasteless Preparation of Extract of Cod Liver Oil. Wilson's Drug Store, Lawrence. Specific gravity, 1.1284; alcohol, 16 per cent; ash, .26 per cent; contained trace of fatty acids. Positive test for biliary acids, indicating possible presence of cod liver products. Hypophosphites present.

Lab. No. 6693, Insp. No. 21299. Hagee's Cordial of the Extract of Cod Liver Oil Compound. F. B. McColloch, Lawrence. Specific gravity, 1.0434; alcohol, 6 $\frac{5}{8}$ per cent; total hypophosphorous acid present as hypophosphites, .55 per cent; ether extract, principally salicylic acid, .13 per cent; ash, 1.68 per cent. Petten Kofler test for biliary acids indicates possible presence of cod liver product.

Lab. No. 6694, Insp. No. 21301. Waterbury's Compound Plain. Dick Bros., Lawrence. Specific gravity, 1.0413; alcohol, 12 per cent; ash, .55 per cent. Contains hypophosphites; contained not more than trace of fatty acids; contained salicylic acid and wild cherry.

Lab. No. 6696, Insp. No. 21297. Arbolone. S. M. Schepper, Bonner Springs. Essentially dried thyroid gland with starch base.

Lab. No. 6711, Insp. No. 100088. Candy. Thought to contain poison. Examined for cyanide, arsenic, alkaloids and mercury. None detected.

Lab. No. 6720, Insp. No. 21312. Preservaline. S. T. Parker, Robinson. Contains boric acid and common salt, about equal parts.

Lab. No. 6727, Insp. No. 100096. Gopher Poison. Tablets containing $\frac{1}{8}$ grain strychnine sulphate. Flour and sugar base.

Lab. No. 6738, Insp. No. 21334. Graperite Acid Solution. Diamond Bottling Works, Topeka. A nearly saturated solution of tartaric acid.

Regular and Delinquent Prosecutions Terminated Since Last Report.

JANUARY, 1915.

Name, place, case, date referred to county attorney, and Termination.

Fred Laughofen, Herington. Sale of illegal cider. 8-22-13. No action taken by county attorney. I.

J. W. Hutchinson, Herington. Sale of illegal cider. 8-22-13. No action taken by county attorney. I.

Geo. Hadlock, Herington. Sale of illegal cider. 8-22-13. No action taken by county attorney. I.

E. D. Smith, Herington. Sale of illegal cider. 8-22-13. No action taken by county attorney. I.

M. G. Lathrop, Herington. Sale of illegal cider. 8-22-13. 11-3-13 arrested on another charge; jumped bond of \$1000 and left for parts unknown. I.

MARCH, 1915.

Henry Jacobs, Pittsburg. Sale of substandard milk. 8-10-15. Fined \$15 and costs. D. & C. I.

W. H. Coffman, Topeka. Sale of substandard milk. 3-6-15. Fined \$25 and costs. I. & C. I.

Joseph Kolarik, Caldwell. Sale and offering for sale 1033 bushels bin-burned wheat. 2-25-15. Found not guilty by jury, which was out 3 $\frac{1}{2}$ hours. D.

APRIL, 1915.

Dr. W. E. Bentley, Manhattan (Gold Belt Ice Cream Co.). Manufacturing of adulterated ice cream. 4-7-15. Fined \$1 and costs. R.

Harry W. Pipher, Manhattan (Gold Belt Ice Cream Co.). Manufacturing of adulterated ice cream. 4-7-15. Fined \$1 and costs. R.

Little's Pharmacy, Alta Vista. Adulterated spirits of camphor. 3-7-15. No satisfactory action taken by county attorney. R.

Chas. P. Banker, Maple Hill. Adulterated boiled linseed oil. 9-13-13. No satisfactory action taken by county attorney. R.

McFarland Lumber Co., McFarland. Adulterated raw linseed oil. 9-13-13. No satisfactory action taken by county attorney. R.

A. R. Strowig, Paxico. Adulterated raw linseed oil. 10-13-13. No satisfactory action taken by county attorney. R.

J. E. Wigglesworth, Rosedale. Five counts on exposing for sale, offering for sale, selling and causing to be sold carcasses of diseased hogs. Attempt was made by county attorney to charge a violation of chapter 185, Laws of 1909. 12-20-13. Trial; court held that this particular statute contemplated the prohibition of diseased living animals, and not carcasses or meat or parts thereof; sustained by supreme court decision, No. 19,530; case at present pending under the food and drugs law of 1907.

J. W. Crist, Wellington. Sale of substandard milk, two counts. 4-9-15. Fined \$20, and costs, \$31.20. D. & I.

W. Goldman, Leavenworth. Sale of substandard milk. 4-2-15. Fined \$10, and costs, \$5. P. & C. I.

F. M. Shaver, Wichita. Sale of substandard milk. 4-15-15. Fined \$25, and costs, about \$5. R. & D.

Sturgis Bros., Kanopolis. Sale of adulterated boiled linseed oil. 9-14-15. Fined \$10 and costs. R.

MAY, 1915.

Jules Gillett, Coffeyville (Gate City Bottling Works). Sale of adulterated pop, containing saccharin, three counts. 4-20-15. Fined \$10 on each count; total, \$30 and costs. P.

Steffens Bros., Pittsburg. Adulterated and misbranded pickles. Containing salts of aluminum. 6-18-12. No action taken by county attorney; also, limit of statute. I.

Kaufman Creamery, Pratt. Manufacture adulterated and substandard ice cream, four counts. 5-3-15. Fined \$5 on first count and \$1 on three other counts, with costs about \$25. I.

Name, place, case, date referred to county attorney, and Termination.

- The Davis Mercantile Co., Topeka. Manufacture and keeping for sale of Pa-Da-Ra pancake flour made from material in part infected with flour beetles, worms, larvæ, dead remains and excreta. 1-14-14. Case dismissed by defendant paying costs, \$12.60. I. & D.
- John C. Witt, acting manager Davis Mercantile Co., Topeka. Manufacturing and keeping for sale of Pa-Da-Ra pancake flour, made from material in part infected with flour beetles, worms, larvæ, dead remains and excreta. 1-14-14. Case dismissed by defendant paying costs, \$9.85. I. & D.
- The Davis Mercantile Co., Topeka. Manufacture peach butter, Victorex brand, adulterated in that it consists in part of a filthy, decomposed and tainted vegetable substance. 2-9-14. Pleaded guilty and fined \$25 and costs, \$3.65. I. & D.
- Geo. M. Atwood, Kansas City. Sale of substandard ice cream. 7-25-14. First trial, jury disagreed; second trial, found not guilty by jury. R.
- A. R. Kagi, Lawrence. Obstruction and failure to assist, on request, in an inspection and sampling. 5-8-15. Found guilty by jury; fined \$10 and costs, \$34.44. Appealed.
- Preston Graybill, Hutchinson. Sale of adulterated milk and cream, eight counts on the milk and one count on the cream. 4-15-15. Pleaded guilty to first count of complaint and was fined \$10 and costs; remaining counts, seven milk counts and one cream count, dropped on county attorney's advice. I. & R.

Scales, Weights and Measures Condemned.

July 1, 1914, to July 1, 1915.

Name, city, article condemned, inspector.

JULY, 1914.

- Harrison Drug Co., Kansas City. 3 Rx. weights. R.
- Lindsborg Mill and Elevator Co., Lindsborg. 1 98-lb. weight. R.
- Oscar Berglund (drugs), Lindsborg. 6 Rx. weights. R.
- J. A. Stockenberg (drugs), Lindsborg. 6 Rx. weights. R.
- Berquist & Anderson (drugs), Marquette. 18 Rx. weights. R.
- Stewart & Talmage Mill Co., Shady Bend. 2 50-lb. weights. R.
- J. T. Clements, Bunkerhill. 5 Rx. weights. R.
- Yost Milling Co., Wilson. 1 weight. R.
- James Latta (drugs), Wilson. 1 Rx. weight. R.
- J. Harmon, Yates Center. 1 1-lb. weight, 1 4-oz. weight. P.
- R. M. Duffield, Herace. 1 Stimpson Computing scale, No. 0333. I.

AUGUST, 1914.

- H. G. Hackney & Sons, Chanute. 2 short weights. P.
- Elliott Grocery and Seed House, Chanute. 1 K. C. scale, No. A. 1914. P.
- E. A. Miller, Nekoma. 1 10-lb. short weight. I.
- Palmer's Opera House Pharmacy, Salina. 3 Rx. weights. R.
- Shellabarger Mill and Elevator Co., Salina. 1 Fairbanks platform scale. R.
- Frank E. Long, Buffalo. 4 short weights. P.
- A. L. Ellis, Jetmore. 1 Stimpson counter computing scale, No. 2680. I.
- The Pokorny Pharmacy, La Crosse. 3 Rx. weights. R.
- Drake & Yarbrough, Piedmont. 1 K. C. meat scale, No. 6107. P.

SEPTEMBER, 1914.

- Solomon Drug Co., Solomon. 3 Rx. weights. R.
- Brookshire Bros., Winfield. 1 2-lb. short weight. P.
- Queen Drug Co., Wichita. 1 pair Rx. scales. D.
- 600 Pharmacy, C. C. Buchanan, proprietor, Wichita. 1 pair Rx. scales, 8 Rx. weights. D.
- Oscar R. Bissantz, Wichita. 5 Rx. weights. D.
- Bert Doane, Ellendale. 1 Reliance counter scale. I.
- Harry Romigh (drugs), Wichita. 1 pair Rx. scales. D.
- C. S. Pratt, Fort Scott. 1 pair Rx. scales and 8 weights attached. D.
- J. E. Fink, Homewood. 1 pair Turnbull patent counter scales. I.
- W. White, Ottawa. 1 10-lb. weight. I.
- West Drug Company, Soldier. 3 Rx. weights. R.

OCTOBER, 1914.

- Roy C. Bertholf, Cherokee. 1 pair Rx. scales. D.
- N. T. Barnhart, Geuda Springs. 1 pair Anderson computing scales, released on repair. P.
- Olsburg Drug Co., Olsburg. 1 pair Rx. scales. R.
- Sorgate Pharmacy and Book Store, Concordia. 6 Rx. weights. R.
- Robinson Pharmacy, Miltonvale. 3 Rx. weights. R.
- M. S. Bacon, druggist, Yates Center. 1 pair Rx. scales and 8 attached weights unfit for use. D.
- The Ponayo Store, Will Robertson, Toronto. 1 pair Rx. scales. D.

NOVEMBER, 1914.

- A. E. Johnson, Osage City. 15 short weights. I.

DECEMBER, 1914.

A. M. Lewellen, Gaylord. 1 pair Rx. scales. R.
 Dodge City Mill and Elevator Co., Dodge City. 1 pair Fairbanks scales used in weighing flour. D.
 J. A. Hall, Pittsburg. 1 pair Anderson scales, No. f10280. P.
 The Western Coal Mining Co., Crawford. 1 hanging meat scale, National. P.
 The Potter Drug Co., Turon. 1 pair Rx. scales. D.

JANUARY, 1915.

F. L. Robertson, Udall. 1 pair Rx. scales and 6 weights. D.
 Hygienic Dairy Co., Junction City. 1 butter scale (rusty and unfit for use). R.
 E. Sutton, Hutchinson. 1 small spring scale. I.

FEBRUARY, 1915.

Geo. Long, Galena. 4 short weights (fixed, retested and released). P.
 E. C. Keith, Baxter Springs. 4 short weights (fixed, retested and released). P.

MARCH, 1915.

Van Alstine & Carpenter, Oswego. 11 short weights (corrected, reinspected and released). P.
 P. O'Reilly, manager, and L. Wash, proprietor, Girard. 1 Rx. scale and 8 short weights. D.
 Anna Bruce, Aliceville. 1 Standard counter computing scale. I.
 W. B. Kerna, Aliceville. 1 Standard counter computing scale. I.
 C. E. Sidlinger, The druggist, Arthur Hess, manager, Hutchinson. 10 short Rx. weights. D.
 Dewall's Pharmacy, Hutchinson. 1 pair Rx. scales. D.
 The A. & A. Drug Co., Arthur Hess, manager, Hutchinson. 13 Rx. weights. D.
 Row Drug Co., Home. 1 pair Rx. scales. R.

APRIL, 1915.

Farmers Union, Bushong. 1 Fairbanks platform scale. I.
 Harry Romigle, Wichita. 1 pair Rx. scales. D.
 M. Scheilthers, Council Grove. 2 gallon measures, lacking $\frac{1}{4}$ pint of full gallon. I.
 Fischer Grocery Co., Baldwin. 1 gallon measure, 1 gill short. I.
 Geo. Beal, Bentley. 2 short weights. I.
 Grove & Hughes, Potwin. 1 gallon measure, $\frac{1}{4}$ pint short. I.

MAY, 1915.

O. J. Benson, Ozawie. 1 Hamilton Como scale. I.
 Taylor Mercantile Co., De Soto. Cup or measure used for pint in beans, peas and corn, 11 cubic inches short of pint. I.

JUNE, 1915.

D. B. Grocery, Valley Falls. Gallon measure used for sale of oil and gas; lacks about $6\frac{1}{2}$ cubic inches of gallon. I.
 Rinehart Drug Co., Phillipsburg. 1 Rx. balance Torsion No. 12,940. R.
 Frank Kolar, McLain. Gallon measure; lacks about one gill of liquid gallon. I.
 The H. R. Beam Co., Sylvia. Measure used for gallon; lacks 18 cu. in. of full measure. I.

New Division of Child Hygiene.

On July 1 will be established the new Division of Child Hygiene, under the supervision of Dr. Lydia Allen De Vilbiss, formerly of the New York state department of health. Doctor De Vilbiss comes to Kansas with a splendid training in child hygiene and with unbounded enthusiasm for the work.

It is designed that the first two year's work of this division will be devoted chiefly to the educational provisions required by the law creating the division.

Doctor De Vilbiss will be available for public lectures relating to her division, and invites correspondence with mothers or prospective mothers relating to the hygiene and care of the child.

Inspection for Egg-breaking Plants.

At the annual meeting of the State Board of Health, held June 8, 1915, the following rules were adopted concerning the regulations in the traffic of eggs:

RULES AND REGULATIONS RELATING TO EGGS.

In force on and after July 1, 1915.

IT IS HEREBY RULED:

I. That it shall be unlawful to ship in any kind of a container, or in any manner, for food purposes, eggs known as "Yolks stuck to the shell," "Heavy blood rings," "Partially hatched," "Mouldy eggs," "Black spots," "Black rots," and all other eggs of an unwholesome nature.

II. That eggs known as "rejects" by the candling process, and exclusive of the above-named variety, may be shipped when packed in cases sealed with identifying strips approved by the State Board of Health. Eggs when so shipped may be routed or consigned to a regular egg dealer or broker, but shall not leave the identified cases except in egg-breaking establishments, which are either licensed or operated under the approval of the Bureau of Chemistry of the Federal Government, or the State Board of Health.

III. Egg-breaking establishments located in the state of Kansas must be of an approved sanitary type, complying with the state sanitary food law, and the rules and regulations of the State Board of Health, which approval shall be evidenced by the issuance of a license of such form as may be hereafter adopted by the Secretary of the State Board of Health, and upon such conditions as may be hereafter provided by the said Board.

IV. Such egg-breaking establishments as desire inspection of products manufactured or packed therein may secure such inspection upon such terms and conditions as may be approved by the Standards' Committee.

Agreeable to the conditions as set forth in Rule 4, the Standards' Committee adopted the following regulations governing licensed egg-breaking establishments:

(a) All egg-breaking establishments having inspection must first have been licensed under the provisions of Rule 3, showing such establishments to have complied with the sanitary requirements of the laws, rules and regulations of the State Board of Health.

(b) Inspectors shall be expertly trained in egg-breaking, and shall be appointed by the chief food and drug inspector. They shall receive a salary of \$75 a month and railroad traveling expenses when assigned to go from one plant to another. The sum of \$85 a month shall be paid by each establishment under inspection to a designated bank acting as a depository for the State Board of Health, which shall receive all moneys, and pay the same out upon order of the chief food and drug inspector. Any deficiencies at the end of the egg-breaking season shall be borne by a proper division of such deficiencies among the plants under inspection.

(c) All egg products inspected under these rules and regulations shall be stamped or marked on the container, or upon a tag fastened by a wire to the container, with the following legend:

**"KANSAS STATE BOARD OF HEALTH INSPECTED AND PASSED. DATE (day, month and year). INSPECTOR (initials of inspector).
GRADE (grade of eggs stated)."**

(d) Inspectors will have the final decision as to the classification of grades of eggs and the final disposition of same, and complete control of the sanitary conditions of the establishment under inspection, including the cleansing and sterilization of containers and implements used in the plant, the personal cleanliness of all employees therein, and the sanitary condition of the toilets and lavatory facilities used by the employees. All questions in controversy relating to any of the above rules and regulations must be referred to the executive officers of the State Board of Health for final decision.

(e) All egg-breaking establishments licensed under Rule 3 of the General Rules and Regulations passed by the State Board of Health June 8, 1915, and all egg-breaking establishments having inspection under the provisions of said regulations, are required to keep accurate records of the receipt and final disposition of all cases of third-grade eggs or so-called "reject" eggs, shipped in identifying cases, in accordance with Rule 2 of the General Regulations, and in like manner to keep accurate record of all third-grade eggs candled out in such establishments from current-receipt eggs. Condensed monthly reports of all receipts and disposal of eggs herein described shall be made to the State Board of Health in such forms or upon such blanks as may be required.

(f) All shippers of so-called "rejects" or third-grade eggs are required to keep accurate account of the number of cases, the date of shipment, and to whom shipped, such records to be open to the inspection of the representatives of the State Board of Health.

Definition.—Rejects by the candling process may be defined as "light blood rings," "Sweets," "Broken-down yolks," and "Heavy yolks," or so-called "Heated" eggs, exclusive of eggs mentioned in Rule 1.

On July 6, the Seymour Packing Company, of Topeka, and the National Poultry and Egg Company, of Atchison, came under inspection in accordance with the above regulations, Miss Madeline Kurtz acting as temporary inspector at the Atchison plant and Mrs. Eva Werner of Sioux City, Ia., acting as temporary inspector at the Seymour plant.

The Emergency Room.

The following communication is worthy of a place in the BULLETIN, for it expresses the conviction of thoughtful women who are interested in public welfare and public health, and who are giving of their time and energy in an increasingly effective fashion towards arousing the public conscience to the fact that a state and nation is strong and virile just in proportion as its individual citizens are healthy and efficient.

The following letter points out one of the means which will serve to conserve the health of the individual family, and incidentally, also, it uncovers a most grievous defect in house construction. Now that we have the outside sleeping porch, let us have the emergency room added.

TOPEKA, KAN., May 25, 1915.

Dr. S. J. Crumbine, State Board of Health:

MY DEAR SIR—The state, by giving us the Division of Child Hygiene, has put itself in a paternal attitude toward its embryo citizens. Then what so rational as to furnish some sort of standard for the housing of those citizens? Houses are usually built after commercialized plans, to get the most possible advance on a certain bill of lumber. We hippodrome the front of the house at the expense of working facilities. We move into a house when well and young, making no provisions for sickness, which inevitably comes sooner or later. Every builder ought to have in mind a room convertible at a moment's notice into an equipped hospital room, this room to be so built that it will be sanitary, and the walls, floor and furniture capable of being sterilized. It should be on the ground floor, with outside entrance, so that it could be readily and to all intents and purposes detached from the rest of the house by hanging up sheets over closed doors, etc. A built-in cabinet should contain first-aid appliances and elemental hospital supplies.

Think what it would mean for mother to have an equipped hospital cabinet to turn to in all emergencies. In case of a burn there is the sweet oil and lime water, bandages for cuts and bruises, and all these in shape where mother could find them in the dark. We are going to have a list of things that ought to be found in such a cabinet for next month and each household may start its own cabinet without waiting to have a real hospital room in which to keep it. This will be welcomed by the family doctor, because it will add so much to his comfort and it will also add to the percentage of his cures to have the information which a hospital cabinet conveys to the household.

This room could be so arranged that it may be used as an ordinary bedroom, sewing room or nursery as exigency demands. Think of the creeping child on the floor in a room where all comers may bring in the dirt of the street—yet children must creep. Then think of the boon this room would be to the mother, whose hands are always full to overflowing when the family are all well, when some one is taken sick and must be cared for by that same pair of full hands, and no room available on the first floor in which she can nurse the sick. Think of what this room would mean in a large family of children when contagion attacks one—when Johnny has a "temperature," and no one yet knows whether it is merely the first two syllables or whether it spells measles or some other childish epidemic. The room on the ground floor with outside entrance makes quarantine easy, and possibly saves more than one spell of sickness. There is such a thing as a house being a woman-killer, while it ought in reality to do more than half the work. The most expensive labor is that which wastes the strength of wife and mother.

Many commissions are taking up the housing proposition. Kansas can not afford to be laggard. The badly planned house, besides being uneconomical in the wasting of strength, is criminal, because it spreads contagion, causing death in many instances; and it is libelous, in that it raises our death rate and the state climatic conditions get the blame.

Besides the hospital room, the model house should have open-air sleeping porches, and every labor-saving device known to man, and these should all be contemplated in the building of the house. Will you not allow this letter, or at least the idea herein, room in the BULLETIN, to the end that we may all be thinking of what we shall do to save the strength of the mother and the health of the baby?

Yours very sincerely, LILLA DAY MONROE.

The Itinerant Quack.

The man who comes to the small town with a cheap stock of shoddy clothes, rents a store for a few days or weeks, and by means of flamboyant advertising disposes of his worthless goods to the "suckers" of the locality is looked on by reputable business men as a detriment to the community. Decent men of the town recognize that while the owner of the store rented and the proprietor of the local newspaper may make a little money out of the visit of the fly-by-night merchant, the town as a whole is the worse for the visit. So generally is this admitted that most towns and villages impose a heavy tax on undesirable citizens of this type.

The itinerant quack bears the same relation to the community as the transient clothing-store proprietor, with this difference: while in the one case the unsophisticated are relieved of their money without getting value received, in the other they also run the risk of losing their health as well. The business men of country towns, however, do not so easily recognize the harm that the traveling doctor does as the damage that the traveling merchant causes. One reason for this is, of course, the fact that the traveling quack is not a competitor of the local business man. Should the local physicians protest, their objections are discounted on the ground that it is a case of "professional jealousy." Rural towns, however, are gradually waking up to the fact that the visit of the itinerant doctor is just as much a calamity as the visit of the itinerant merchant. And, naturally enough, the editors of the country newspapers are among the first to call public attention to this fact. We say naturally, says *The Journal of the American Medical Association*, because the men editing the country newspapers are, as a class, among the leaders of thought in their communities. From a selfish point of view, the local newspapers might be expected to be the last ones to have anything

detrimental to say about the class that brings in a handsome advertising revenue.

The *New Teller* is published at York, Neb. It received an offer of an advertisement from a Dr. A. A. Potterf, of Kansas City, who was going to pay a visit to York in the hope, doubtless, of catching some persons who think that their home physicians know less than traveling quacks. Of course the editor did not know that Dr. A. A. Potterf was a graduate of a low-grade school that is now out of existence; that while the doctor has been practicing medicine for a quarter of a century he is so little known in his home town that reputable physicians of Kansas City have never heard of him. The editor of the *New Teller* did not know, and could not be expected to know, these things; but he did know that physicians who are above the average in knowledge and skill do not go quacking it around the country. Knowing this, the *New Teller* published the following open letter on the front page of its issue of July 30. It is worth reading:

"DEAR DOCTOR:—Your ad. copy and express money order received. We regret very much that you contemplate another visit to York in the near future. We regret just as much not being able to keep the money order—it looks good to us. However the *New Teller* has managed to struggle along several months without any such advertisements. We are mercenary enough to indulge in the hope that you will file your certificate with the county clerk, and pay the small fee required by the law, though this little matter is as a rule neglected by the traveling fraternity of your calling.

"Owing you no personal enmity, we can't help expressing the wish that the city of York might find some way to benefit by your stay in this city to the extent of at least fifty dollars a day. Not so long ago, an itinerant peddler might rent a storeroom in York, put in a cheap stock of overalls, gilt watches, and in the course of ten days wind up with an auction sale. This proceeding would now cost him too much.

"You may be a good doctor—a most excellent doctor. As such you might build up a lucrative practice in Kansas City and be saved the toils and hardships incident to constant traveling. [A delightful piece of gentle sarcasm.—ED.] There are already many good doctors in York—plenty, in fact. As they make their homes here, the people have a fair chance to judge them. The people don't have a fair opportunity to become acquainted with you. We believe this community would be as well off without the visits of 'United Doctors,' 'Doctor Specialists,' and the like, and have said so in a variety of ways. We believe the person with defective eyesight should consult an oculist, rather than patronize a spectacle peddler. If peddlers we must have, let them aid materially in cutting down the heavy burden of the taxpayers.

Very respectfully, THE NEW TELLER.

"The above letter also applies to 'The Old Reliable State Medical Institute' of Omaha, which forwards ad. copy under date of July 29, announcing a three days' visit to York. The Institute may be old and it may be reliable. It may be several other things. It should be remembered that a quack doctor is more dangerous and vastly more expensive than patent medicines. The public is now protected to a certain extent against the latter."

Could the facts be stated more simply or more accurately? A letter like this makes the readers of the newspaper think, and quackery can not thrive among people who think! Some day it will dawn on the public generally that the doctor who can treat any kind of ailment a little better than the general run of doctors does not need to spend money advertising that fact, nor is it necessary for him to assume "the toils and hardships incident to constant traveling"!

Rabies and Dog Days.

The coming of the "dog days," especially if the season happens to bring with it one or more prolonged heated periods, attracts the attention of the public generally much more to the danger from rabies than do definite reports of the spread of the disease at other seasons of the year, which ought to arouse solicitude. Boards of aldermen, city councils and town officials of other kinds wake up from the most absolute lethargy with regard to the disease at this time, and, especially in the smaller towns and country places, pass ordinances and revive regulations requiring dogs to be muzzled while on the streets. This is all the more amusing because the term "dog days" has no reference to dogs, but is borrowed from the Romans, who called Sirius, the brightest of the fixed stars, the Dog Star. At one time during the Roman epoch the rising of this star coincided with the rising of the sun in the latter part of July. The twenty days preceding and the twenty days following this conjunction were for the Romans *dies canis*, the days of the dog—or the Dog Star. Rome had its fiercest heats usually during this period; therefore, the time was dreaded and came to have the reputation of an unhealthy season, though not with any special reference to the dogs of Rome. In our day the popular meaning of the "dog days" is that dogs are especially likely to go mad at this time. The consequence is that, while the animals are made uncomfortable by nose muz-

zling, their discomfort is greatly added to by the foolish dread which keeps people from giving them water or caring for them properly. Rabies may occur at any season of the year; the actual statistics show greater frequency of the disease during the winter than during the summer months. It is most common in the early spring, and March and April would be a much better time to select for "dog days" in the popular sense than the weeks of July and August that have by misapprehension come to be looked on as the special period of danger.

Summer Care of Babies.

Division of Child Hygiene, LYDIA ALLEN DEVILBISS, M. D., Chief.

INFANT MORTALITY.

Hot weather is the time of danger for the babies. Nearly 1000 of the 5000 that died last year in Kansas died from summer diarrhoea. These deaths might all have been prevented if these babies had been given the proper food.

BREAST FEEDING.

The only perfect food for babies is mother's milk. It is always ready; it is never sour; it does not have to be prepared nor measured and it is always safe for the baby. Breast-fed babies seldom have the bowel troubles which are so fatal to bottle-fed babies during the hot weather.

There are very few mothers who can not nurse their babies if they try to do so under the direction of a competent physician, and breast feeding is the one thing which can prevent this great loss of babies from preventable diarrhoea this summer. Ten bottle-fed babies die to one that is fed at the breast.

BOTTLE FEEDING.

When for any reason it is impossible to secure mother's milk for a child, clean, fresh cow's milk properly modified is the best substitute. Unless you are absolutely certain that the milk you are getting is perfectly safe, it is best to pasteurize it, especially during the summer months.

Everything which is used in connection with baby's food, bottles, nipples and utensils must be scrupulously clean and scalded before using.

Pasteurizing milk in the home may be done simply and easily. After the milk has been modified, place the baby's bottles in water to the neck. Heat the water until it comes just to the boiling point, then set it off the fire for thirty minutes. After this, the milk should be quickly cooled and kept on ice until it is wanted. Warm the milk before feeding by placing the bot-

tle in hot water. Never keep the feeding bottle warm all night, as the germs will ferment the milk and make the baby sick.

Baby needs less food but more to drink in the hot weather. Do not urge him ever to take more than he wants. Throw away the balance of the feeding. Never save it for another meal.

If the bowel movement becomes loose, do not neglect it because the baby happens to be teething; it may mean the beginning of a serious illness. It is easier to prevent diarrhoea than it is to cure it, and the proper treatment at the beginning of an attack is worth more than days of treatment later.

The important things to do to prevent summer diarrhoea are: (1) Pasteurize the milk in summer. (2) Dilute the milk with boiled water in very hot weather. (3) If acute diarrhoea begins, *stop all food at once*, give only cooled, boiled water, and send for a doctor.

BATHING.

Every baby should be bathed at least once a day; during the hot weather two or three sponge baths may be given in twenty-four hours. The baby should have his own tub, soap, towels and wash cloths. A practical test for the correct temperature is to use water that feels warm to the elbow.

When bathing the baby in a tub, let him rest upon your left arm, which is slipped under his back from his right side. By grasping the baby under the armpit with the left hand a good hold is secured which prevents slipping. The right hand is left free for washing the baby. Wash the baby's face and head before putting him into the tub. A special wash cloth, preferably of cheesecloth, should be provided for this purpose.

After the baby is taken out of the tub, he should be patted dry in a large, soft, bath towel.

The best time for bathing the baby is just before his morning feeding, between 8 and 10 o'clock. After his bath, he will be ready to take his food and go to sleep.

On very warm days, a quick sponging with cool soda water (one teaspoonful of bicarbonate of soda to a pint of tepid water) will add greatly to the baby's comfort.

CLOTHING.

Do not put too many clothes on the baby during the summer, and these should be loose and roomy so as to allow the freest movements. Flannel petticoats should be left off during the hottest weather and a cotton or silk shirt substituted for the woolen one.

During the hottest part of the day, take off all baby's clothing except a loose diaper and allow him to roll and play on the bed.

The baby should have one entire change of clothing daily. A soiled garment never should be put back nor left on him.

Wet diapers will make the baby fretful and they should be changed as often as it is necessary. The water passed by the baby contains irritating substances, and if diapers are put on the baby the second time without washing they are liable to make him sore.

If baby becomes chafed or sore, keep water and soap away from the parts and cleanse him each time he is changed with a little olive oil on cotton or gauze.

Keep a large covered pail for wet and soiled diapers. Especially in the summer time is this important, for flies may travel from the soiled diapers to the baby or his food and make him very ill.

All of the baby's clothing should be washed in clean water with pure soap, boiled, rinsed thoroughly, but not blued or starched, and hung in the sun to dry. Before putting on the baby they should be held to the cheek to be certain that they are dry and warm.

FRESH AIR.

Keep the baby in the open air whenever possible but avoid the sun during hot weather. Much of the baby's time should be spent out of doors after he is three months old, on a porch or in the yard, protected from flies and other insects, and from stray cats and dogs.

During the summer, a new-born baby may be taken out of doors in the first week. Begin with an outing of fifteen minutes at noon and gradually lengthen the time in the forenoon and afternoon until the baby is out from 10 a. m. until 2 p. m. The surroundings of the home should be free from uncovered garbage, rubbish, and manure. All of these attract flies and other disease-carrying insects.

Comfortable sleep during the heated portion of the year is more difficult to secure. The most airy room should be chosen and all the baby's clothing removed save the diaper and a very thin cotton gown with loose sleeves. It is better to keep the baby out of doors during late afternoon and evening until the rooms are cool. Whenever it is possible, a screened sleeping porch should be provided where he may sleep out all night with sufficient protection from sudden changes in the weather. Out-of-door sleeping in summer, day or night, is excellent for the baby after he is a month or two old, providing he is always properly protected.

The practicing physician who fails to report a case of communicable disease thereby endangers the welfare of the community and exposes others to the danger of contracting the disease, and among those so exposed may be others of his patients. He is neither a good physician nor a good citizen, and must be considered as opposed to the principle of the control of disease and the protection of the community for which the health department stands.—*Assistant Surgeon-General Trask.*

THE VULTURES!

BULLETIN
OF THE
Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

Entered as second-class matter, March 5, 1906, at the post office at Topeka, Kan.,
under the act of Congress of July 16, 1894.

No. 7.

JULY, 1915.

VOL. XI

Baby Bulletin.

**It is not the number of children BORN that count; it is the number that are raised
to happy and efficient manhood and womanhood.**

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JULY, 1915.

VOL. XI

Baby Bulletin.

**It is not the number of children born that count; it is the number that are raised
to happy and efficient manhood and womanhood.**

FOREWORD.

Summertime is danger time for babies. Therefore, this bulletin has been hurriedly prepared by the newly organized Division of Child Hygiene, in order that it may help in the saving of babies this summer.

Indebtedness for material is acknowledged to the excellent bulletins of city and state boards of health, to the National Children's Bureau, and to other sources.

An invitation is extended to physicians, social workers and mothers of Kansas and to all organizations and individuals interested in child hygiene to visit the division and to confer on baby-saving and child-welfare plans, to the end that, through coöperative effort, the highest and most efficient service may be rendered the children of Kansas.

LYDIA ALLEN DEVILBISS, M. D.,
Chief, Division of Child Hygiene.

To Health Officers and to all interested in Public Health Education Work:

The baby makes a universal appeal. Everybody loves a little baby and is willing to make some sacrifice in order that he may be given a better chance.

Big folks are careless about their own health, and it is difficult sometimes to interest them in public hygiene. But when a danger threatens their babies they are up instantly in defense. And in combating unhygienic conditions and making their town and their homes safe places for the babies, they incidentally learn much of general hygiene and the necessity of their coöperation in public health matters.

Therefore, the Board of Health feels that in presenting this BULLETIN exclusively devoted to the Baby, it is furnishing you with an entering wedge for a general campaign in public health education in your community.

Yours for success,

S. J. CRUMBINE, M. D., *Secretary.*

The Child's Declaration of Rights.

Every child has the right to belong to the aristocracy of health and intelligence; to be born with a good mind and a sound body.

Every child has the right to be loved; to have his individuality respected; to be trained wisely in body, mind and soul; to be protected from disease, from evil influences and evil persons; and to have a fair chance in life.

Every child has the right to be surrounded by that environment in which he may develop to the fullest his abilities and his talents.

The child is the asset of the state; he owes the state nothing.

Register Your Baby.

A birth certificate may be required: To prove descent; to prove inheritance of property; to obtain a pension; to enter school; to secure employment under civil service; to establish ability to make contracts; to enter the professions; to join the army or navy; for court purposes; to marry.

Ask your doctor if he registered your baby. Go to the local registrar's office and see if it has been filed. Write to the state registrar and secure certificate showing the registry number. Make a memorandum in the family registry of the following facts; it may save you much time, money and inconvenience:

Baby's name; father's name; mother's maiden name; sex of baby. If twin or triplet, give number in order of birth. Date of baby's birth, month, day, year. Birthplace: City or township; county; state. Attending physician: Name; address. Baby's registered number.

The Board of Health hopes to send, in the near future, a handsome baby book to every mother whose baby's birth is reported.

If you find that your baby has not been registered, write at once to the State Registrar, W. J. V. Deacon, Topeka, Kan.

Infant Mortality.

TOPEKA, KANSAS, July 31, 1915.

Dr. Lydia A. DeVilbiss, Chief Division of Child Hygiene:

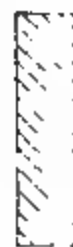
DEAR DOCTOR DEVILBISS—Herewith I am transmitting a map which, in a measure, portrays the infant mortality in this state.

To arrive at a basis which would present the condition in a manner that might be readily understood by the average layman, we have taken a somewhat new view of the problem. We have taken the group of births reported for the state in 1913, numbering 35,382, and against this group we have charged the number of deaths of children under one year of age which occurred in 1913, numbering 3112; we have also charged the number of deaths of children from one to two years of age which occurred in 1914, numbering 820—a total of 3932. While it is of course true that these deaths did not all occur from the group in question, it is probably

KANSAS.—Of the 35,382 babies born in 1913, one in every nine died before the end of 1914. Help make the map white.



Less than 1 to 15



About 1 in 12.



About 1 in 10.



About 1 in 8.

About 1 in 7.

More than 1 in 6.

as near concrete as it is possible to get without an actual survey of the babies now living from that group, or rather that were living on January 1, 1915, which is, of course, impractical.

From these figures it will be seen that 11.1 per cent of the group of children born in 1913 died before the end of 1914. This is equivalent to one in every nine. This same plan has been worked out for each county and each of the cities above 10,000 as shown by the 1910 census. The map, however, shows the complete counties only, and the figures for those counties having large cities include the rate for the city. For your guidance, however, I give you the figures for each of the cities:

Atchison, Atchison county	14.2%
Fort Scott, Bourbon county	13.7%
Pittsburg, Crawford County	16.4%
Lawrence, Douglas county	10.8%
Parsons, Labette county	10.8%
Leavenworth, Leavenworth county	13.5%
Coffeyville, Montgomery county	16.7%
Independence, Montgomery county	21.8%
Hutchinson, Reno county	11.8%
Wichita, Sedgwick county	9.5%
Topeka, Shawnee county	14.7%
Kansas City, Wyandotte county	15.3%

The complete table for each county is on file in this office, and while these are not transmitted herewith they will be available for any particular locality for which information may be desired.

Very truly yours, W. J. V. DEACON, *State Registrar.*

PART I.

The Care of the Baby.

Diseases of Infancy and Childhood.

The most injurious of all mistaken ideas about the child is that he must have certain contagious diseases of childhood, such as measles and whooping cough, and that the sooner he has had them and got over them the better.

The younger the child, the higher the death rate from these diseases. The younger the baby the less resistance he can offer to disease. As the child grows older he develops more strength and vitality. If you can keep him from taking these diseases while he is quite young, you will give him a better chance for his life.

Whooping cough alone kills 10,000 young children each year in the United States. Last year in Kansas 183 children died from this disease, of whom 100 were under one year of age and 69 were over one year and under two years.

Measles, bronchitis, scarlet fever and diphtheria and many other serious diseases for babies may begin with a running nose or sore throat. Germs of these diseases come from people's mouths and hands.

Colds are highly infectious. A little cold in an adult may mean a big cold and possibly death for the baby. Do not sneeze or cough near the baby nor allow any one to kiss him on the mouth.

If you want to save your baby, keep him away from sick people, away from crowds, and away from the liability of exposure to disease.

What to Notice in the Baby.

Posture When Sleeping. The sleep should be peaceful, quiet, no tossing about, the mouth closed and the limbs relaxed.

Breathing. The breathing should be regular, easy and quiet. Baby should breathe through the nose.

Skin. The skin of a healthy baby is a fine pink color. It should be cool, firm and smooth to the touch. The extremities should be warm.

Face. The face should be calm and peaceful and show a pleasant expression. If the baby is suffering pain or is ill, he may have an anxious expression, or the features may contract from time to time during sleep.

Well Baby. A normal healthy child gains regularly in weight, has a warm, moist skin, breathes quietly, eats heartily, sleeps peacefully, has one or two regular bowel movements daily, and cries only when he is hungry or hurt or ill, or indulging in temper.

Sick Baby. Learn to recognize any change from the normal. Unusual flushing or pallor of the face, lack of energy, loss of appetite, profuse sweating, especially of the head, peevishness, frequent vomiting or diarrhea give warning that something is wrong. *Find out what and why.*



The Nursery.

The home is planned for the comfort of the family; yet how infrequently there is any provision made for the baby or the growing children. If your house-room is limited, you had far better do without a parlor, which you will seldom use, and devote the one room to the little folks who will use it every day.

Sunshine is as necessary for babies as for plants, and a baby deprived of the sun will droop and pine just as the plant does. Therefore, choose a sunny room for the nursery, and one which has windows, or windows and doors, on opposite sides, so that an abundant supply of fresh air may continually be obtained.

The nursery should be kept comfortably warm in winter, and it is best to have furnace heat rather than stoves. Oil stoves should be avoided. They exhaust the air in a short time. An open grate is a great convenience, both for the additional heat and because it helps to keep the air of the room in circulation.

The floor should be bare, so that it can be kept clean by wiping it with a damp cloth or dust-mop. A few washable rugs may be added. Provide plain white sash curtains at the windows, as these can frequently be laundered.

The Nursery.

The equipment for the nursery should all be of the simplest kind and such that can readily be wiped with a damp cloth or laundered, and so kept free from dust. The equipment may include a screen to protect baby from drafts, a low chair without arms for the mother, baby scales, bath tub, basket for toilet articles, and a plain table. A chest of drawers or bureau is a welcome convenience.

Baby's Bed. Baby's first bed may be made from an ordinary clothes basket. This can be easily picked up and carried about, which is an advantage. It should be placed on a chair or a box, never on the floor. Make two linings of white material and interline them with paper. This effectually protects the little baby from all drafts indoors and out.

A feather pillow is not suitable as a mattress or for the baby's head. Use an old, soft comforter or ordinary mattress of hair, felt or cotton, protected by rubber sheeting, light oilcloth, or paper blanket. Since rubber or oilcloth is hard and uncomfortable, a soft washable pad should

be used directly underneath the sheet. Table felting makes an excellent pad for this purpose.

The young baby will breathe more easily and take a larger supply of air into the lungs if no pillow is used. A clean, soft folded napkin may be placed under his head, but it should not be allowed to elevate the head appreciably. Toward the end of the second year a thin hair pillow may be used.

Fresh Air.

Outdoors. The baby must have an abundant supply of fresh air day and night. He should be kept out of doors as much as possible, avoiding the hot sun and days when the thermometer drops below 22° F.

In the summertime a new-born baby may be taken out of doors the first week. Begin with a daily outing of fifteen minutes about noon and gradually lengthen the time in the forenoon and afternoon until the baby is out from ten o'clock until two o'clock. He must be properly clothed according to the weather, and his eyes protected from the sun.

Out-of-door pen.

At all ages, the baby carriage must be one in which the child can lie comfortably at full length. When sitting up, his little spine and feet must be supported.

The surroundings of the home should be free from uncovered rubbish, garbage or manure. All of these attract flies and disease-carrying insects. Dogs and cats have no place around a little baby.

Indoors. Fresh air is essential for indoors. The windows should be screened against flies and disease-carrying insects, and windows facing the hot sun should be provided with awnings.

A plentiful supply of fresh air in wintertime without drafts may be secured by tacking thin muslin or cheesecloth over the windows. This also keeps out particles of coal soot, dirt and snow.

Sleep.

The child's body develops faster during the first year of his life than at any other period. During sleep, the body tissues are recreated and the materials and energies needed for the activity of the waking hours are stored up. For that reason, baby needs a correspondingly large allowance of sleep, with the best sleeping accommodations, so that the hours of sleep may be of the greatest value to him.

The wrong way.

Alone. Baby should sleep alone. Quite frequently babies are smothered to death while in bed with an older person, some part of whose body is thrown over baby's face while asleep. He should have the longest period of unbroken sleep at night. It is wrong to allow him to turn night into day.

Amount. The baby should sleep eighteen or twenty hours out of the twenty-four, and he should have sixteen hours up to the age of one year. From the first to the second year he should sleep twelve hours. The daytime naps should be continued as long as possible, even up to six years. The baby should never take a nap in all his clothes. The shoes of older children especially should be removed, and in hot weather remove all but the shirt and diaper.

Sleeping-room. The sleeping-room should be darkened and well ventilated. The baby should be fed and made comfortable in every way, put in his crib, and let alone to go to sleep. He should never be rocked to sleep nor jolted and jounced.

Out of Doors. Out-of-door sleeping in summer, both by day and by night, is excellent for the baby after he is a month old. He must be protected from flies, mosquitoes, shielded from the wind and sun, and covered if there is a sudden drop in temperature.

Out-door sleeping.

Bathing.

Baby must be bathed at least once a day. During the hot weather several extra sponge baths may be given. A bath thermometer is an inexpensive convenience. For the first few months the temperature of the bath should be 90° to 95° F. By the end of the first year, it may be lowered to 80° or 85°. If you do not have a thermometer, test the water with your elbow, never with your hand. The water should feel comfortably warm. Baby should have his own tub, soap, wash rags and towels. All these and his full set of clean clothing should be arranged beforehand.

Before undressing him, wash the face, head and ears, being careful not to get soap into his eyes. Very little soap is needed for baby's skin, and it is most important that the skin should be thoroughly rinsed. Pat the skin dry with a soft towel, taking care to dry well back of the ears and in the soft folds of the neck.

Undress baby, taking the clothes off over his feet. If held on the lap, a large bath towel should be placed across the lap to prevent his tender skin coming in contact with a rough or worsted dress and to receive him when he is lifted out of the tub. A more convenient way of bathing a baby is to undress him on a table instead of the lap.

Soap the entire body thoroughly, then place the baby in the bath, holding him with the left forearm under the neck and shoulders, the left hand under his left arm, and lifting the feet and legs with the right hand. Support the baby while in the tub by not removing the left hand and arm. Sponge the entire body with the right hand, then lift the baby out and wrap him in a bath towel. Dry carefully with the soft towel, patting the skin gently. Never rub the baby's tender skin with anything less than the smooth palm of the hand.



Correct way of putting baby in tub.

Dress him as rapidly as possible, if the weather is cold, taking care not to expose him unnecessarily. When the weather is very hot in summer, only a shirt, diaper and slip are needed.

Care should be taken never to plunge the baby into water that is too hot or too cold, to let him fall and strike the tub, or in any way to get frightened at his daily bath. If the bathing is done properly, baby will enjoy his bath so thoroughly that the giving it will be a pleasure. When there is any irritation of the skin, such as chafing or prickly heat, bran baths may be substituted for soap. Make a cotton bag of cheesecloth or other thin material. Fill loosely with bran. Soak the bag in the bath water, squeezing it until it becomes milky.

Care of Special Organs.

Eyes. Shortly after baby is born, his eyes are wiped free from mucous and gently sponged with bits of cotton dipped in boracic acid solution, wiping from the nose outward without opening the lids. Then the doctor or nurse will drop a few drops of an antiseptic solution to prevent the development of any infection that may have gotten into the eyes. The solution is furnished free by the Kansas State Board of Health.

Whether a baby is asleep or awake, his eyes should always be shielded from strong light, either sunlight or artificial light, and from dust and wind. Care should be taken not to allow soapy water to enter the eyes

during bathing. They should be gently wiped with pieces of cotton dipped in boracic acid solution. If there is swelling, redness or discharge from the baby's eyes, call your doctor at once. It may be only a simple infection which he can cure easily in a day or two, or it may be a severe infection which will destroy the baby's sight, in which case the delay of a few hours puts the infection beyond the doctor's control. Do not take chances with your baby's eyes.

Ears. Wash the external ear with a soft rag and always dry the ears and creases back of them very carefully. Never attempt to introduce any hard instrument inside the ear to clean it. You may clean out the outer part of the canal with a bit of cotton wrapped on a toothpick. When a child complains of earache or there is discharge from the ear, take him to the doctor. Neglect of earache may mean deafness in later years.

Nose. Baby's nose should be cleaned as a part of the daily bath in the same way as the ears. Babies who live out of doors, are fed properly, not too warmly dressed and kept away from infection are less liable to colds than those not so well cared for.

Mouth. A healthy baby's mouth needs to be let alone, else the delicate mucous membrane will be broken and an infection introduced. If the mouth

For treating new-born
baby's eye.

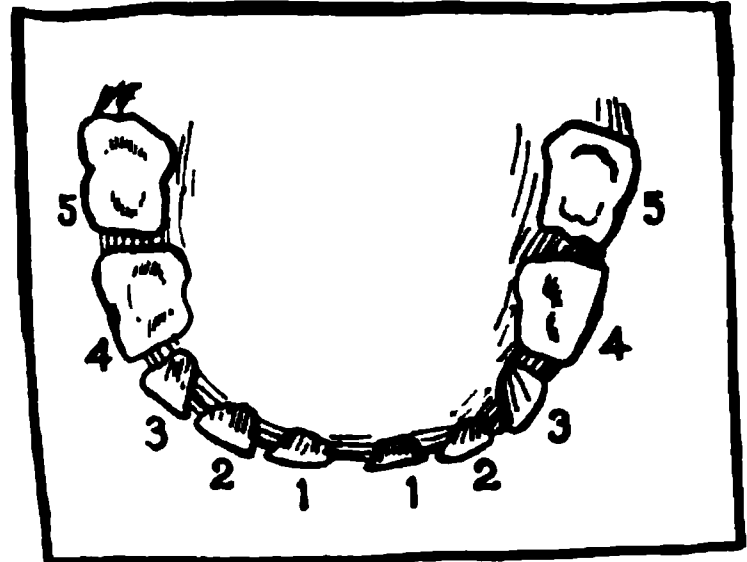
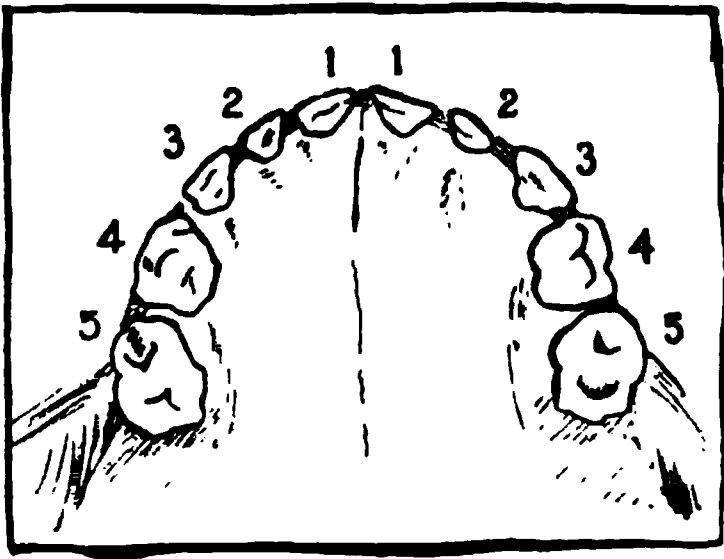
must be washed, use a swab made by twisting a piece of sterile cotton on the end of a toothpick. Dip this in warmed boiled water and wipe the jaws very carefully. Never put a finger inside the mouth unless in an emergency.

Genitals. The genital organs of both boys and girls should be kept scrupulously clean, using plenty of pure soap and water at the daily bath. Vaginitis develops quickly in girls if they are not kept clean. The foreskin of boys should be pushed back gently and cleansed. If there is any difficulty in doing this, see your physician. Any inflammation should be called at once to the attention of the physician, for if neglected it may lead to the habit of masturbation.



Teething.

Teething is a normal process and does not make the baby ill. Consequently, if your baby is cross or sick while he is cutting teeth you may know there is something else wrong with him. Usually it is something wrong with his diet; but take him to your doctor and find out.



LOWER JAW: (1) First incisor, 6 to 9 months; (2) second incisor, 12 to 15 months; (3) canine of "stomach," 18 to 24 months; (4) first molar, 12 to 15 months; (5) second molar, 24 to 30 months.

UPPER JAW: (1) First incisor, 8 to 12 months; (2) second incisor, 8 to 12 months; (3) canine or "eye," 18 to 24 months; (4) first molar, 15 months; (5) second molar, 24 to 30 months.

A child one year of age should have eight teeth; at sixteen months, twelve teeth; at eighteen months, sixteen teeth; and at two and one-half years, twenty teeth.

A child's first teeth should not be neglected. They should be kept clean for him until he can be taught to use a tooth brush himself. These teeth are necessary to keep the shape of the little jaw until the second teeth appear, so they should not be sacrificed to decay.

Clothing.

One of the joys of motherhood is the fashioning of dainty little garments for the baby that is coming. But she does not need to sacrifice daintiness in order to have that comfort and simplicity which should be the keynote of a baby's wardrobe. Elaborate or fancy trimmed garments can serve no other purpose than to flatter the vanity of the mother and relatives. Both baby and mother are better off without them; particularly is this true if the mother is to care for the garments herself.

There are so many exquisite designs of hand embroidery offered for baby clothes that the mother is easily tempted to plan a layette that is beyond her strength and one that will require many hours of close application to complete. It will require hours, too, that the mother should spend out of doors getting the fresh air and exercise necessary to her own and the baby's best health. Fine sewing done by the expectant mother also is likely to result in severe eye strain, with headaches and a train of nervous symptoms which will cause mother and baby hours of discomfort.

The little baby requires an abundance of clean clothes. The few more minutes required to iron each embroidered or lace-trimmed little garment will consume much time and energy. This time can be spent to better advantage so far as both mother and baby are concerned.

Lace about the neck of a little baby's dress is likely to irritate the tender skin and cause the child a great deal of discomfort. Sometimes these irritations are difficult to heal.

For the first few weeks of his life the new baby does practically nothing but eat, sleep and grow. If its few simple wants are attended to promptly and regularly, and he is permitted to sleep twenty or more hours out of the twenty-four, he will grow and develop naturally and healthily.



Drawing clothing on over the feet.

In dressing the baby, he should be handled as little as possible. A little baby's body is very tender, and if handled roughly or too much he will be made very uncomfortable. The clothing should all be drawn on over the feet instead of over the head. When baby is a few months old it is a good plan on a hot summer day to take off all his clothing for a few minutes in the middle of the day and allow him to roll and play on a bed.

When he is completely dressed, baby has on a shirt, band, diaper, skirt, dress and bootees. None of this clothing should be heavy or stiff. It is better to dress him lightly, and for cool mornings or for evenings slip on a little short jacket.

The baby needs only a limited wardrobe at first. If a more elaborate layette is desired the garments can be added later. The following are essential:

Three flannel abdominal bands made of soft, white, unhemmed flannel, 5 or 6 inches wide, and from 14 to 18 inches long. They should be wide enough to protect the abdomen and not wide enough to wrinkle. They should go once and a half around the baby's abdomen, lap across the front, and pin or tie at the side. As soon as the navel is healed, or, at the latest, the second month, these should be replaced by:

Three knitted abdominal bands with shoulder straps and a tab to pin to the diaper. These should be made the lower part of wool and the upper part of cotton. This kind of band will not slip up around the baby's chest nor wrinkle and make him uncomfortable.

Three shirts, wool and cotton, or wool and silk; never all wool. For the very hottest weather an all cotton or silk shirt may be worn.

Four dozen diapers; two dozen 24 inch, two dozen 30 inch. For the first few days, diapers 18 inches square of old soft-knitted material are very convenient.

Four or more dozen pieces of old sheeting torn into pieces 10 inches square. These pieces are put inside the diapers, and may be burned when soiled.

Four flannel skirts, princess style. For hot weather these may be made of the very lightest weight flannel or part flannel and cotton.

Four nightgowns or sleeping-bags of white outing flannel or knitted material. For winter wear the sleeves of the nightgown may be made two inches longer and the bottom eight inches longer. Draw-tapes may be run through the sleeves and the hem and baby's hands and feet protected from the cold. The sleeping-bags are made like the wrap.

Six plain white slips. These should be made over the kimono sleeve pattern and a tape run through a facing around the neck and the sleeves. If they are made 21 inches long from shoulder to hem, they will not need shortening. They should never be made longer than 27 inches.

Three short jackets for cool mornings. These should be made of white flannel or closely crocheted or knitted. They should be without loose scallops or other trimming to catch on buttons and the baby's fingers.

Three pairs of booties.

Three pairs of merino or cashmere stockings, if the weather is cold.

Three blankets of closely knitted or crocheted wool or made from an old soft woollen blanket.

One wrap and hood for out of doors. This wrap is made of white eiderdown or flannel 27 inches wide and 88 inches long. It may be sewed together or bound around with ribbon. At four months, the upper corners may be opened and bound so as to allow the baby to get its hands out freely. For winter, the hood may be made of the same material as the wrap, or it may be knitted or crocheted; for summer, a silk or cotton knit or crochet, after an open-lace pattern, and lined with the very thinnest white silk is comfortable. Or a wash hood may be made of soft white embroidered lawn and laundered without starch. The ties on the hood should be such as can be laundered easily. A little chin strap fastened at one side of the hood with a snap or hook and eye is very convenient and does away with a bow under the baby's chin.

Habits, Training and Discipline.

Habits are the result of repeated action. The baby is born without habits, and what habits he may develop, and whether they are good or bad habits, depends usually on the mother or those who are responsible for his care.

It must not be forgotten that the period of infancy is a period of education often of greater consequence than any other two years of life. Not only are all the organs and functions given their primary education, but the faculties of the mind as well receive those initial impulses that determine very largely their direction and efficiency through life. The first nervous impulse which passes through the baby's eyes, ears, fingers or mouth to the tender brain makes a pathway for itself; the next time another impulse travels over the same path it deepens the impression of the first. It is because the brain is so sensitive to these impressions in childhood that we remember throughout life things that have happened in our early years, while nearer events are forgotten. Accordingly, if these early stimuli are sent in orderly fashion, the habits thus:

established and also the tendency to form such habits will persist throughout life.

Systematic Care. The first essential habit for the baby is that of regularity. This should begin shortly after birth and should apply to all the functions of the body. To develop this habit of regularity in the baby he must have systematic care.

The care of the baby is readily reduced to a system unless he is sick. Such a system is not only one of the greatest factors in keeping the baby well and training him in such a way that will be of value to him all through life, but it reduces the work of a mother to a minimum and provides for her certain periods of rest and recreation.

The following program is suggested as a sample of systematic care of the baby. This program may be modified to suit the needs of each particular case:

6 a. m.—Baby's first nursing. Family breakfast; children off to school.
9 a. m.—Baby's bath, followed by second nursing. Baby sleeps until noon.
12 to 12:30.—Baby's noon meal. Out-of-door airing and nap.
3 to 3:30 p. m.—Afternoon nursing. Period of waking.
6 to 7 p. m.—Baby's supper and bed.
10 to 12 p. m.—Baby's night meal.

CRYING.

Crying is the baby's prerogative. He has the right to cry strenuously, waving his arms and legs in the air, for at least fifteen minutes, but not longer than one hour, every day. He needs it to make him grow strong.

A child may be taught to cry when he is only a few days old. He likes to be held and rocked, and when he is put down he cries hard and is taken up and carried. He soon learns that if he will only cry hard enough and long enough some one will come and get him. A child can successfully be cured of this bad habit only by letting him cry it out. Once or twice will usually suffice.

Aside from physical exercise, crying is baby's method of telling you that something is wrong. Learn to know what he is telling you by interpreting the different kinds of crying.

Colic or Abdominal Pain. This is a lusty cry, sometimes rising to a shriek with tears in the eyes. The knees are drawn up on the abdomen and the hands are tightly clenched. A tight fist is almost always an indication of pain. If the crying is severe or persistent, apply warm cloths to the abdomen. Inject one-half ounce warm olive oil or mild soap suds into the rectum, which will cause the bowels to move and expel the gas. Look well to the diet and remove the cause of colic.

Hunger Cry. This is a low, whining or whimpering cry, sometimes accompanied by sucking the fingers or the lips. It may change to a lusty scream, if the meal is not forthcoming.

Fretful Cry. The baby is sleepy or uncomfortable. He may be too warm, or tired of lying in one position. A tepid sponge bath and a gentle rub and change of clothing will prove very restful and comforting to baby. If the crying continues, consult your doctor. The child may be ill or ailing.

Sick Cry. A very sick child does not cry hard. There is a low moaning and a wail, with sometimes a turning of the head from side to side.

PLAYING WITH THE BABY.

A young, delicate or nervous baby needs rest and quiet, and however robust the child may be, too much playing is more or less harmful. Especially, the child should not be played with just before going to bed, as it is likely to result in a restless night.

The mother needs also to be cautioned about rocking the baby, jumping him up and down on her knee, tossing him, shaking bed or carriages, and, in general, keeping him in constant motion. These things disturb baby's nerves and make him more and more dependent upon these attentions. When the young baby is awake he should frequently be taken up and held quietly in the arms in a variety of positions, so that no one set of muscles may become overtired. An older child should be taught to sit on the floor or in his pen or crib during a part of his waking hours and amuse himself.

TOYS.

Since a baby wants to put everything in his mouth, his toys must be those that can safely be used in this way. They should be washable and should have no sharp points nor corners to hurt the eyes. Painted articles and hairy and wooly toys are unsafe, as also are objects small enough to be swallowed, and those having loose parts, such as bells and the like.

A child should never have so many toys at one time as to distract his interest. He will be quite satisfied with a few things for the time being, and a handful of clothespins, or a silver teaspoon and tin cup, for example, will often please just as much as an expensive doll or other toy. It is an excellent plan to have a box or basket in which to keep empty spools and other household objects with which the baby may play.

LEARNING TO WALK.

The average child begins to want to stand at about the tenth month, and to walk from the twelfth to the eighteenth month. Earlier efforts at standing and walking should not be encouraged. A child should never be urged to stand or walk, especially a heavy baby. He will want to walk of his own accord so soon as the little legs are strong enough to bear his weight.

LEARNING TO TALK.

A child learns to talk by hearing older people and other children speaking. At first, to his untrained ears, speech is but a jumble of sounds like a foreign language to us. Later, he begins to associate certain sounds with certain people, things and movements. It is highly important that he should hear these words and sounds correctly spoken, and that when he begins to form sentences he should hear correct English. Otherwise he will learn baby talk and improper methods of speech, only to have to unlearn them at school by tremendous effort.

CONTROL OF BLADDER AND STOOL.

Some babies may be taught to control the bladder and stool during the day by the end of the first year. To do this, it is necessary to put him on the chamber at frequent and regular intervals and at the same time each day.

BAD HABITS.

"Pacifier" or "Comforts." The extremely bad habit of sucking on a rubber teat or a sugar ball or any other similar article, is one for which some one else is entirely responsible. The baby does not teach himself this disgusting habit, and he should not have to suffer for it. Some of the evil effects attributed to this habit are that it spoils the natural arch of the mouth by causing the protrusion of the upper jaw; it induces a constant flow of saliva and keeps the baby drooling; the pacifier is never clean, and may readily carry the germs of disease into the baby's mouth; and last and not least, it is a habit which is particularly disfiguring to the baby's appearance. The pacifier, of whatever variety, must be destroyed, and no such object should be permitted in the baby's mouth under any circumstances.

Thumb or Finger Sucking. This is another habit leading to the same results as the use of pacifiers, but one which the baby may acquire for himself, although it frequently is taught to him. To break up either habit requires resolution and patience on the part of the mother. The thumb or finger must be persistently and constantly removed from the mouth and the baby's attention diverted to something else. The sleeve may be pinned or sewed down over the fingers of the offending hand for several days and nights, or the hand may be put in a cotton mitten. Ill-tasting applications have very little effect. There are patent articles for holding the hand from the mouth which are sold in the stores, but the persistent covering of the hand often works very well. The baby's hands should be set free now and then, especially if he is old enough to use his hands for his toys, and at meal times, to save as much unnecessary strain on his nerves as possible, but with the approach of sleeping time the hand must be covered.

Bed-wetting. To punish a child for persistent bed-wetting is as cruel as it is useless. A physician should be consulted. Usually there is something wrong with the urine or the bladder. Many a young person has had his childhood spoiled by being a victim of this disease, which if not cured while he is young may persist even to old age.

Masturbation. Occasional acts of masturbation are common in children. If the act is repeated it soon develops into a habit which may be very difficult to cure and the results of which may be disastrous. This habit may be caused by some local irritation, which should be treated by a physician, or it may be contracted by playthings which rub upon the genitals, such as rocking-horses, or from chafing from an ill-fitting diaper or drawers.

To punish a child for this habit or to shame him is worse than useless. The only way to cure it is to have some mechanical restraint to prevent him from practicing it. In all events, have a thorough examination by your doctor at the first evidence of masturbation.

Early Training. The training in the use of individual judgment can be begun even in infancy. A child should early be taught to choose certain paths of action for himself. If he is continually and absolutely forbidden to do this or that he is sometimes seriously handicapped later, because he does not know how to use his own reasoning faculties in mak-

ing these choices. On the other hand, obedience is one of the most necessary lessons for children to learn. A wise mother will not abuse her privilege in this respect by a too-exacting practice. For the most part she can exert her control otherwise than by commands, and if she does so her authority when exercised will have greater force and instant obedience will more readily be given.

Most of the naughtiness of infancy can be traced to physical causes. Babies who are fussy, restless and fretful usually are either uncomfortable in some way because they have not been properly fed and taken care of, are sick or ailing, or have been indulged too much. On the other hand, babies who are properly fed, who are kept clean, and have plenty of sleep and fresh air, and who have been trained in regular habits of life, have no cause for being "bad," and are therefore "good."

Punishment. Harsh punishment has no place in the proper upbringing of the baby. A baby knows nothing of right or wrong, but follows his natural inclinations. If these lead him in the wrong direction the mother must be at hand to guide him in another and better one and to divert his eager interest and his energy into wholesome and normal directions. This is the golden rule in the training of babies, and one which applies to the training of children of all ages.

Breast-feeding.

Mother's milk is nature's food for the baby. It will make baby strong and healthy.

Mother's milk is always ready and is never sour. It does not have to be prepared nor measured. It is always safe.

Mother's milk contains the proper elements of food in the right proportion for the growing child.

Breast-fed babies seldom have bowel trouble, which is so fatal in bottle-fed babies, especially during hot weather.

Ten bottle-fed babies die to one that is fed at the breast.

Your baby will have the best chance of living if it is breast-fed. If you love your baby, nurse it.

THE NURSING MOTHER.

There is frequently a short period after the mother gets up and the nurse or helper is gone, when weariness from her own feeble health or worry consequent upon the care of the baby causes the milk supply to be diminished. The mother may conclude that the baby will starve and give up nursing it. This is a great mistake.

The child may be nourished for this period, if necessary, by supplementing the mother's milk with modified cow's milk. As the mother grows stronger, and mother and babe become better adjusted, she will find the milk coming in sufficient quantity.

The nursing mother, like the pregnant mother, needs plenty of fresh air and some exercise each day in the open air, preferably walking or light gardening. The ordinary household duties may be beneficial, but the nursing mother must not be overworked nor become overheated. She

should take a nap each afternoon, or at least lie down and rest in a cool room.

The nursing mother can not afford to have a "spell of nerves." Anger, worry, grief, excitement, all interfere with the nervous system and its control over the circulation of the blood. They also cause certain chemical changes in the composition of the blood, all of which affect the supply and the quality of the milk. The nursing mother needs to keep herself well. So long as she is well the baby will be well.

Diet. The diet for a nursing mother needs to be nutritious, laxative and appetizing. As a rule she may follow her own inclinations in choice of food, avoiding foods which she has learned disturb her digestion, as these will disturb the baby.

If the milk is scanty, a more generous diet is indicated. Take more fresh milk, eggs, fresh vegetables, ripe fruit, nourishing liquid food, and drink plenty of water, avoiding tea and coffee and all alcoholic preparations or patent medicines.

Constipation should be guarded against. Fresh fruits are laxative. Whole-wheat bread is more nourishing than white bread and does not constipate. Bran biscuits or bran added to whole-wheat flour are laxative. A glass of hot water the first thing on rising in the morning has a beneficial action on the bowels.

The following diet is recommended during pregnancy and nursing:

All kinds of soups.
All kinds of fresh fish, boiled and broiled.
Meats, once a day: Beef, mutton, lamb, veal, ham, bacon, chicken or turkey.
Eggs, freely, one or two each day.
All cooked cereals, with milk and cream and sugar.
All stale breads, avoiding fresh bread and rich cake.
All green vegetables: Peas, string beans, asparagus, cauliflower, onions, spinach, white and sweet potatoes, celery, lettuce, and other plain salads with oil.
Desserts of plain custard or pudding, ice cream; no pastry.
Fruits should be freely taken; all ripe raw fruits and cooked fruits.
Drinks: Milk, buttermilk, cocoa; plenty of water, one or two quarts daily; tea and coffee sparingly and not strong, once a day. No beer or other alcoholic drinks.

Make Nursing Your Baby a Pleasure. Lie down to nurse your baby. Relax every muscle in your body and utilize those fifteen minutes every three hours for rest. You will rise freshened in mind and body, and both you and baby will be better for it.

The mother who loves her baby nurses it. There are very few mothers whose breasts will not give sufficient milk, if they will encourage the baby to suck and thus keep the milk flowing.

RULES FOR NURSING.

The new-born baby is put to the breast when it is five or six hours old. During the first twenty-four hours he should nurse not more than four times, but at both breasts each time. If he cries much, give him plain, cooled, boiled water. Do not give him any kind of tea, sugar or other mixture.

Beginning with the third day, when the milk usually comes, baby should nurse every three hours, alternating each breast or taking both breasts at each time, according to his appetite and the amount of milk secreted.

In the event the milk is delayed longer than the third day, baby should be fed from the bottle at three-hour intervals, but he should regularly be put to the breast in order to stimulate the flow of milk.

Until the baby is four months old, nurse every three hours until 10 p.m., and only once during the night, seven nursings in twenty-four hours.

When he is six months old, nurse every four hours, usually giving both breasts each time, only five nursings in twenty-four hours.

If he cries between feedings, give him plain, cooled, boiled water. Babies are as likely to cry from overfeeding as from hunger.

WEANING.

Do not wean your baby during the hot months if you can avoid it, and then only after consulting with your physician. Wean the baby gradually. Usually at about the ninth month you may begin, substituting for the breast one feeding of milk properly modified. Slowly increase the number of feedings until at the age of one year the baby is entirely weaned.

A healthy infant weaned at nine months should begin with milk modified for a child four or five months. If he digests this well, the strength can be gradually increased until in two or three weeks he is taking full strength.

Increase in the diet should be made with special caution, especially during the summer. It is better to keep the baby on a low diet than to upset his digestion by overfeeding.

A child nine or ten months old may be taught to take milk from a cup.

Bottle-feeding.

Substitute for Breast Milk. There is no perfect substitute for breast milk, but clean, fresh cow's milk, properly modified, is the best substitute available. It should be kept continually on ice until ready for use.

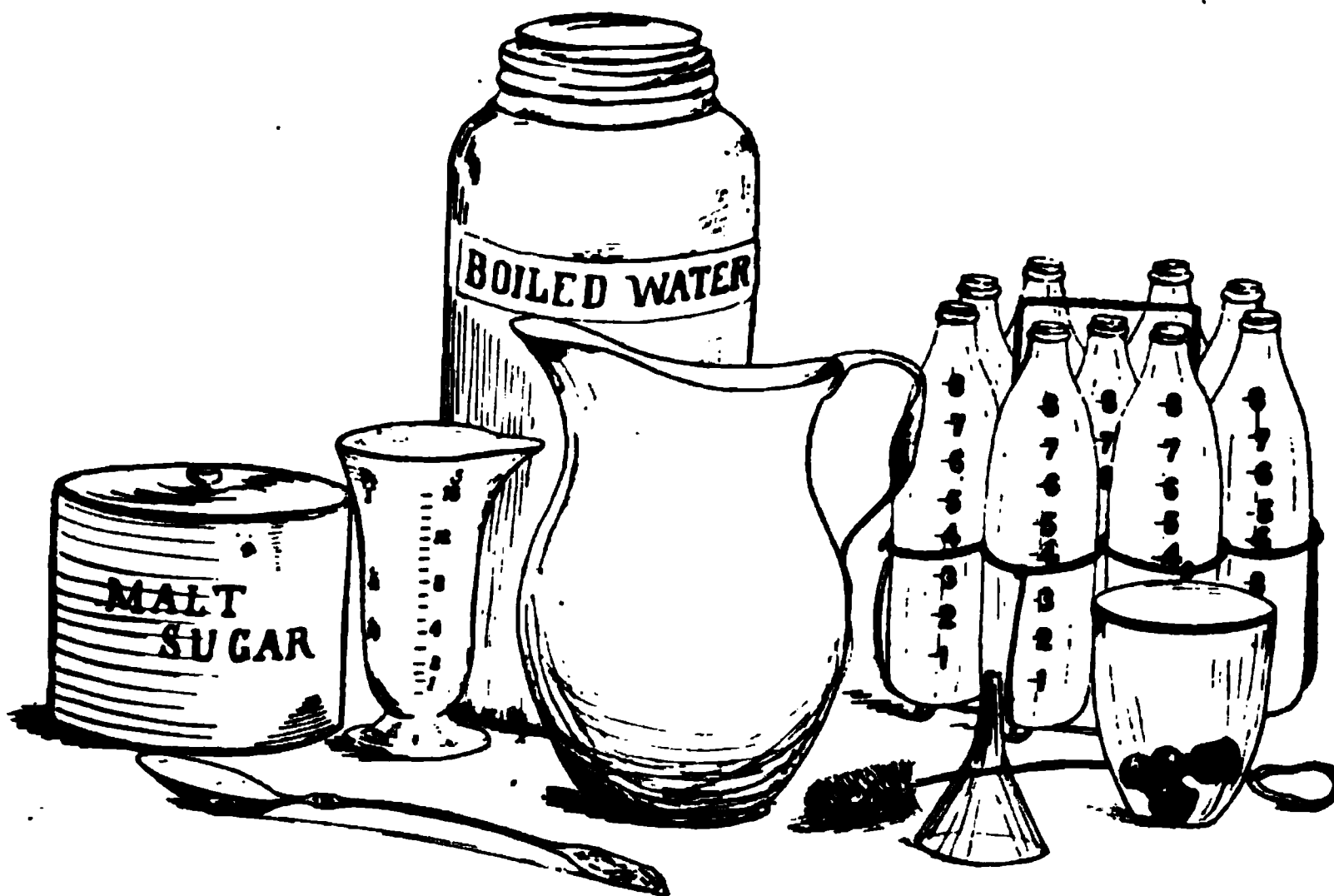
Care of Milk. Buy only clean milk from a clean dairy, and keep it clean in your home. Milk for babies should be delivered in bottles. Dipped milk is never quite clean and never quite safe; dirt and flies are likely to get into it. Do not leave the bottle standing in the sun. It should be put immediately on ice. Milk should never be allowed to stand about the house in open vessels.

Modified Milk. The term "modified milk" means milk to which has been added water and sugar or other substances, according to a formula suitable to baby's age and physical condition. The composition of cow's milk is so different from breast milk that very young babies can not digest it unchanged.

Sugar is added not to sweeten it, but to add the necessary food element. Malt sugar or milk sugar are better than ordinary household sugar.

The right formula for modifying the baby's milk is most important. It requires to be changed every few days as baby gains in weight. Because of this, feeding the baby on the bottle should be under the direct supervision of a physician.

Care of Utensils for Baby's Milk. Good quality, perfect, white granite-ware should be used for modifying the baby's milk. These utensils should never be used for other purposes. They should be kept scrupulously clean and scalded each time before using.



Equipment for modifying milk:

- 1 large pan with inverted pie pan in the bottom for pasteurizing.
- 1 two-quart granite sauce pan with handle, or pitcher.
- 1 tablespoon.
- 1 pint graduate.
- 7 bottles, cork and nipple for each bottle.
- 1 wire rack for holding bottles.
- 1 bottle brush.
- 1 two-quart fruit jar of cooled, boiled water.
- 1 fruit jar of lime water or barley water, as ordered by the physician.
- 1 jar of malt sugar or milk sugar.
- 1 box of baking-soda or borax.

Care of Bottles, Nipples, and Corks. There should be as many bottles as there are feedings in twenty-four hours. The bottle should be cleaned immediately after feeding by rinsing in clear water, then by soaking in soda, borax or soap water. They should be scrubbed with a clean brush in warm soap suds and rinsed with boiling water. They should then be filled with boiled water until ready for use.

Use only noncollapsible nipples which can be slipped over the neck of the bottle. After each feeding cleanse the nipple inside and outside, scrubbing it with a brush in warm soap water. Wrap the nipples in a clean cloth and boil them once a day. Drop them into a scalded jelly glass and put the lid on tight. Never touch with your fingers that part of the nipple which must go into the baby's mouth.

The hole in the nipple should be only large enough that when the bottle is inverted the drops will fall about one and one-half inches apart.

The corks should be scalded each day and kept in a tightly covered receptacle.

The Three Magic S's. Remember the three magic S's which apply to everything which must touch baby's food: Scrubbing, Scouring, Scalding.

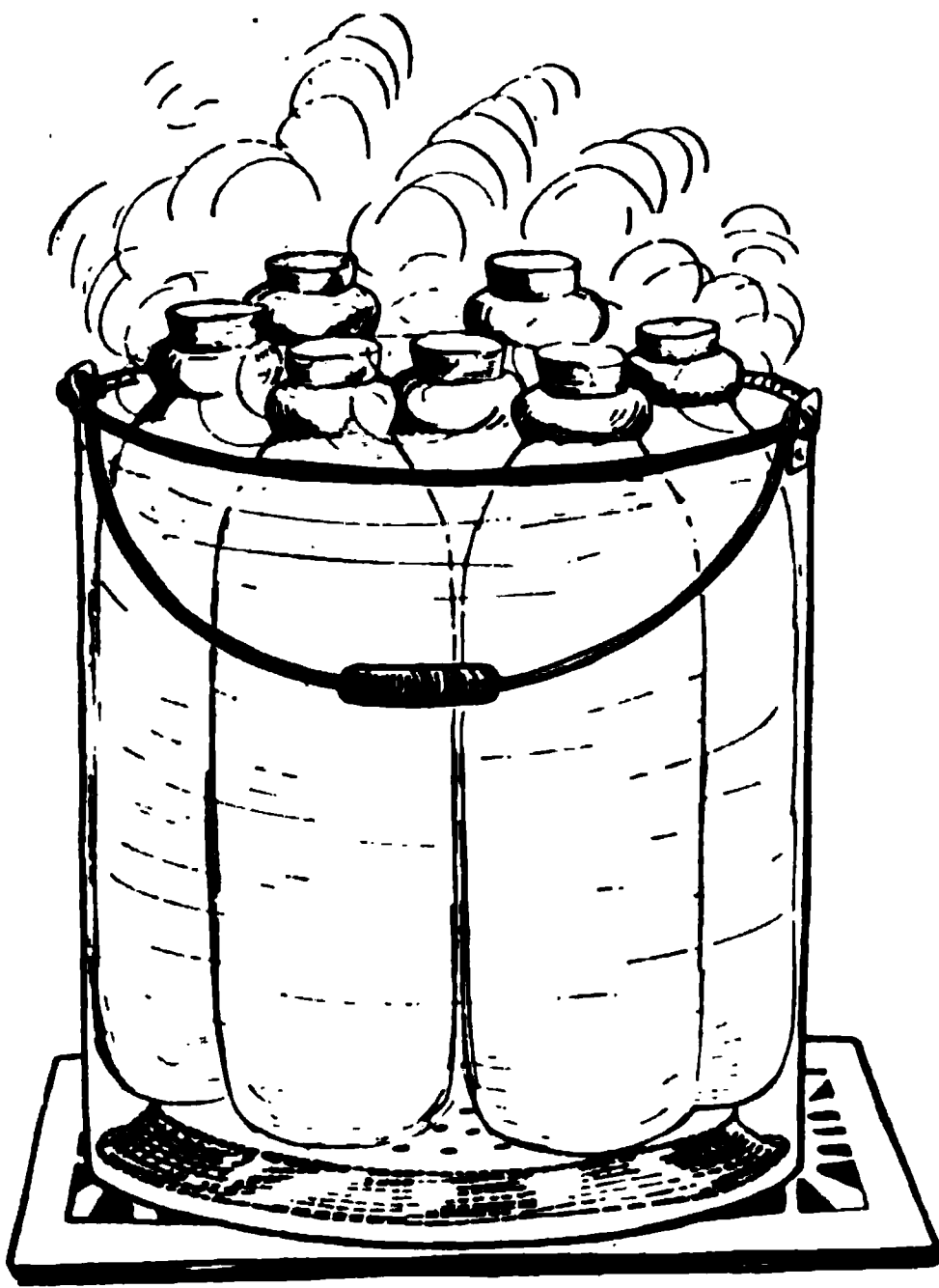
Directions for Modifying Milk. The mother's hands should be washed clean. Before opening the milk bottle, wipe off the top carefully with a clean, damp cloth to remove any particles of dust and dirt.

The simplest plan for modification of milk is to use the whole milk and dilute it according to the child's age and digestion.

When it is prepared according to the formula, pour the required

amount for each feeding into a separate bottle, one for each feeding in the twenty-four hours, and stopper the bottles with a clean cork.

Unless you are absolutely certain that you are getting safe milk, it is best to pasteurize it. After the milk has been modified and poured into the bottles, place the bottles on an inverted pie pan, with holes in the bottom, up to the necks in a pan of water. Put a thermometer in the water and heat until the water is 150° F. Remove the cooker from the hot fire and keep the temperature of the water between 140° and 150° for thirty minutes. A thermometer is inexpensive and it is much



Home-made pasteurizer.

safer to use one than to experiment with the baby's milk.

If you have no thermometer and if you are careful, good results may be attained by heating the water until small bubbles begin to appear around the necks of the bottles and taking it off the fire just before it begins to boil. Let it stand for thirty minutes, then cool quickly and place on ice until it is needed.

A cheap wire rack is a convenience for holding the bottles while the milk is being pasteurized.

Feed the Baby by the Clock. When it is feeding time, shake the bottle gently to mix the contents and place in a pan of hot water to warm it. Test the temperature by letting a few drops fall on the inside of the wrist.

Giving the Baby the Bottle. The bottle always should be held while the child is taking the food. Do not allow him to drink longer than twenty minutes. Do not urge him to take more than he wants. If he does not take the whole feeding, throw it out and do not save for another time.

A child should never be played with after feeding. He should not be allowed to suck on an empty bottle nor allowed to sleep or play with the nipple in his mouth.

After feeding, the child should be placed upright and patted gently to allow him to bring up gas or air which he has swallowed. He should then be placed in his bed, but not rocked.

At six months of age the bottle-fed baby should have from one to three tablespoonfuls of orange juice midway between feedings. At nine months he may be given once daily a half cup of beef tea or plain bouillon or chicken broth.

At ten months he should have a small piece of crisp toast; zwieback or crust of bread to chew immediately after his feeding.

No other food should be given during the first year.

SCHEDULE FOR MODIFYING MILK.

(Prepared by a committee of the American Medical Association.)

Beginning on the third day, the average baby should be given 3 ounces of milk daily, diluted with 7 ounces of water. To this should be added 1 tablespoonful of limewater and 2 level teaspoonfuls of sugar. This should be given in seven feedings.

At one week the average child requires 5 ounces of milk daily, which should be diluted with 10 ounces of water. To this should be added 1½ even tablespoonfuls of sugar and 1 ounce of limewater. This should be given in seven feedings. The milk should be increased by one-half ounce about every four days. The water should be increased by one-half ounce every eight days.

At three months the average child requires 16 ounces of milk daily, which should be diluted with 16 ounces of water. To this should be added 3 tablespoonfuls of sugar and 2 ounces of limewater. This should be given in six feedings. The milk should be increased by one-half ounce every six days. The water should be reduced by one-half ounce about every two weeks.

At six months the average child requires 24 ounces of milk daily, which should be diluted with 12 ounces of water. To this should be added 2 ounces of limewater and 3 even tablespoonfuls of sugar. This should be given in five feedings. The amount of milk should be increased by one-half ounce every week. The milk should be increased only if the child is hungry and digesting his food well. It should not be increased unless he is hungry, nor if he is suffering from indigestion even though he seems hungry.

At nine months the average child requires 30 ounces of milk daily, which should be diluted with 10 ounces of water. To this should be added 2 even tablespoonfuls of sugar and 2 ounces of limewater. This should be given in five feedings. The sugar added may be milk sugar, or if this can not be obtained, cane (granulated) sugar or maltose (malt sugar). At first plain water should be used to dilute the milk.

At three months, sometimes earlier, a weak barley water may be used in the place of plain water; it is made of one-half level tablespoonful of barley flour to 16 ounces of water and cooked for 20 minutes.

At six months the barley flour may be increased to 1½ even tablespoonfuls cooked in the 12 ounces of water.

At nine months the barley flour may be increased to 3 level tablespoonfuls cooked in the 8 ounces of water.

**Schedule for Feeding Healthy Infants During First Year.—
L. Emmett Holt, M. D.**

Age.	Interval between meals by day.	Night feedings (10 p. m. to 7 a. m.)	Number of feedings in 24 hours.	Quantity for one feeding.	Quantity for 24 hours.
	<i>Hours.</i>			<i>Ounces.</i>	<i>Ounces.</i>
Second to seventh day.....	3	1	7	1½ to 2½	16 to 17
Second and third weeks.....	3	1	1	2 to 4	14 to 28
Fourth to ninth week.....	3	1	7	3 to 4½	21 to 31
Tenth week to fifth month.....	3	1	7	3½ to 5	24 to 35
Fifth to seventh month.....	3	0	6	4½ to 6½	27 to 39
Seventh to twelfth month.....	4	0	5	6½ to 9	33 to 45

A simple rule for feeding the average healthy baby is to give 1½ ounces of milk in 24 hours for every pound of body weight. To this is added the sugar and diluting fluid as directed for the given age. Thus a baby weighing 10 pounds will take 15 ounces of milk in 24 hours, increased by the necessary sugar and fluid. CLIFFORD G. GRULEE, M. D.

Infant Feeding After the First Year.

Diet, 12 to 18 Months.

Five meals a day. Milk from the cup; no bottles after the twelfth month.

First meal—6 a. m. Milk, 8 to 10 ounces, and thick barley water or oatmeal jelly, 2 ounces. The juice of one-half and later of one whole orange may be given at 9 a. m.

Second meal—10 a. m. Milk with stale bread or zwieback, or fine, well-cooked cereal; oatmeal, pettjohn, cracked wheat, wheatena, with milk.

Third meal—2 p. m. Chicken, beef or mutton broth with boiled rice or stale bread, or milk with zwieback or stale bread.

Fourth meal—6 p. m. Milk with stale bread or zwieback, or well-cooked cereal.

Fifth meal—10 p. m. Milk, 8 to 10 ounces, and thick barley water or oatmeal jelly, 2 ounces.

Diet, 18 to 24 Months.

Four meals a day. Give at least four glasses of milk a day. No food between meals. Water several times a day.

BREAKFAST—7:30 A. M.

1. Juice of whole sweet orange or pulp of four or five stewed prunes.
2. Cereal cooked at least three hours, corn meal, oatmeal, pettjohn, rice, cracked wheat, wheatena, sweetened (one-half to one teaspoonful of sugar) or salted, with milk.
3. Glass of milk, warmed, with very dry bread or zwieback.

MORNING LUNCH—11 A. M.

Glass of warmed milk with very dry bread or zwieback, or one or two graham crackers.

DINNER—2 P. M.

1. Choice of one cup of broth or soup made of beef, chicken or mutton, and thickened with farina, peas or rice; or
Beef juice, 2 ounces, or dish gravy on dry bread; or
Soft boiled or poached egg, boiled rice cooked four hours, or one-half baked potato.
2. Glass of warmed milk.
3. Dessert: Apple sauce, blancmange, cornstarch, custard, junket, stewed prunes, plain rice pudding.

SUPPER—5:30 P. M.

1. Well-cooked cereal with milk. Glass of warmed milk.
2. Dry bread and milk.

Diet, 2 to 3 years.

Three meals a day. No food between meals. Water several times a day. Out of doors as much as possible. (All vegetables should be very thoroughly cooked and mashed.)

BREAKFAST—7:30 A. M.

1. The juice of one sweet orange or pulp or six stewed prunes, and apple sauce.
2. Either a well-cooked cereal, corn meal, pettjohn, oatmeal, rice, cracked wheat, wheatena, sweetened (one-half to one teaspoonful of sugar), or salted, with milk, or soft boiled or poached egg with stale bread or toast.
3. Glass of warmed milk.

DINNER—12 to 1 P. M.

1. Choice of broth or soup, chicken, beef, or mutton, thickened with peas or rice; or, White meat of chicken, chop, rare roast beef, rare steak, broiled fish; or, Asparagus, carrots, string beans, peas, boiled or baked potato, spinach.
2. Glass of warmed milk.
3. Dessert: Baked apple, plain bread pudding, cornstarch, custard, junket, stewed prunes, plain rice pudding.

Diet, 3 to 6 years.

Three meals a day—7:30, 12:30, and 5:30. No food between meals. Water, frequently. Out of doors as much as possible.

Milk: Should be the main article of diet.

Cereal: Must be cooked three to four hours. Oatmeal should be given several times a week on account of its action on the bowels.

Bread: Stale or zwieback.

Soups: Beef broth with vermicelli, beef tea, chicken broth with rice, milk soup, strained vegetable soup.

Meat: Beef should generally be rare, and should be given not more than once a day. Roast beef, rare and minced, broiled lamb chops minced, broiled tenderloin minced. White meat of chicken and minced chicken, well cooked. Boiled or broiled fresh fish, well cooked, Eggs, poached. Crisp bacon.

Vegetables: Asparagus tips, string beans, carrots, stewed celery, macaroni, or spaghetti in milk, puree of Bermuda onions stewed soft in milk, peas, baked potatoes, steamed rice, spinach. All vegetables should be thoroughly cooked and mashed.

Desserts: Apple sauce, cup custard, junket, orange juice, stewed prunes, rice pudding, tapioca.

Candy: One piece of strictly pure candy may be given the child of three after a meal.

Forbidden Foods.

Meats: All fried meats, corned beef, dried beef, brains, kidney, liver, sweet-breads, duck, game, goose, ham, pork, sausage, meat stews, dressings from roasted meats.

Vegetables: All fried vegetables of all varieties, cabbage, celery, green corn, cucumbers, sweet potatoes, tomatoes, and all raw articles such as raw celery, raw onions and olives.

Bread and Cake: Griddle cakes, hot bread, rolls, sweet cakes. Also bread or cake with dried fruits or sweet frosting.

Desserts: Store candy, jellies, nuts, pastry, pie, preserves, salad, syrups, tarts.

Drinks: Coffee, tea, beer, cider, wine.

Cereals: Do not give any young child the "dry" or ready-to-serve cereals.

Recipes.

HOME-MADE FIRELESS COOKER.

A fireless cooker can be constructed for a few cents by any boy or girl, and will pay for the cost many times over in the saving of fuel and improvement in the food.

Secure a tin pail with straight sides and a lid. Put it in a candy pail or soap box and pack it tightly about with newspapers. Make a pad of newspapers several inches thick for the lid.

In the evening prepare the cereal in an ordinary granite pan with cover, and while it is still boiling hot transfer it to the tin pail and put the lid on tightly. At breakfast time the cereal will be thoroughly cooked and have a delicious flavor.

Two things may be cooked at once by resting the cereal pan in a deeper pan, which may contain meat or a vegetable.

WATERS.

BARLEY WATER. One heaping tablespoonful of barley flour and a pinch of salt are mixed with a little water into a thin paste and added to one quart of boiling water. Stir well and boil for twenty minutes. Add enough water to make one quart. Pearl barley requires more cooking. It should be boiled for at least three hours and must be strained before using. Make fresh supply daily. Barley water is often used instead of water to dilute the milk and tends to make the curds more digestible.

Tabulated Scheme for Feeding.

Age.	Food.				Total quantity in 24 hrs.	Amount at each feeding.	Intervals between feedings.	Number of feedings in 24 hrs.
First week	See note at bottom of table.....				Ounces. 10 to 15	Ounces. 1 to 1½	Hours. 2	10
Second week	See note at bottom of table.....				20	2	2	10
Third and fourth weeks..	Weight (strip-ped).	Milk.	Water.	Sugar.	25	2½	2	10
	Pounds.	Ounces.	Ounces.	Ounces.				
	6	12	13	1				
	7	14	11	1				
Second month	8	16	9	1	30	3	2	10
	7	14	16	1½				
	8	16	14	1½				
Third month	9	18	12	1½	30	3	2	10
	8	16	14	1½				
	10	20	10	1½				
Fourth month	9	18	18	1½	36	4½	2½	8
	10	20	16	1½				
	11	22	14	1½				
	12	24	12	1½				
Fifth month	11	22	18	1½	40	5½	3	7
	12	24	16	1½				
	13	26	14	1½				
	14	28	12	1½				
Sixth month	12	24	18	1½	42	7	3	6
	13	26	16	1½				
	14	28	14	1½				
	15	30	12	1½				
Seventh month	13	26	16	1½	42	7	3	6
	14	28	14	1½				
	15	30	12	1½				
	16	30	12	1½				
Eighth month to 1st year,	14	28	20	1½	48	8	3	6
	15	30	18	1½				
	16	32	16	1½				
	17	32	16	1½				
	18	34	14	1½				
	19	34	14	1½				
	20	36	12	1½				
	21	36	12	1½				
	22	38	10	1½				

NOTE.—For the new-born baby make the food very weak at first, and work up a little each day until the food is strong enough to make him gain. On the second or third day make the twenty-four hour quantity of food with three ounces of milk and twelve of boiled water, no sugar.

The next day give him four ounces of milk, twelve ounces of water, one teaspoonful of sugar; the next day five ounces of milk, twelve ounces of water and so on until the tenth or fourteenth day the baby is getting food the proper strength for his weight.

Add one level teaspoonful of sugar every other day until one or one and one-half ounces are given in the total twenty-four hour quantity of food.

—From "The Healthy Baby," by Roger H. Dennett, MacMillan Co.

OATMEAL WATER. Stir two tablespoonfuls of oatmeal and a pinch of salt into a quart of boiling water and let it simmer for three hours or remain in fireless cooker overnight. Add water to make one quart. Strain. Make fresh daily. Oatmeal water is also often used instead of water to dilute the milk. It has a laxative effect.

EGG WATER. Stir the white of one egg into one pint of cool, boiled water. Add a pinch of salt, shake thoroughly and strain. This should be kept in the ice box or other cool place. Egg water may be used when the baby can not digest milk.

CEREALS.

All cereals served to the baby must be cooked from three to four hours, or placed in the fireless cooker overnight. They are very much improved for adults by cooking them in the same manner.

GENERAL DIRECTIONS FOR COOKING ALL CEREALS. Have the water boiling. Allow one-half teaspoonful salt to each cup of water. Add cereal gradually. Let mixture cook for five minutes. Place in double boiler for three hours, or in fireless cooker overnight.

WHOLE OR CRACKED CEREALS—Wheat, Barley, Rice. Use one-half cup of cereal to two cups of water. Cook three to twelve hours except rice, which should be cooked forty-five minutes.

FLAKED CEREALS—Rolled Oats and Flaked Wheat. Use one cup cereal to two cups of water. Cook one-half to three hours.

GRANULAR CEREAL—Cream of Wheat, Wheatena, Farina, Pettijohn. Use six tablespoonfuls of cereal to two cups of water. Cook one to four hours.

GRUELS OR JELLIES. Gruels or jellies are prepared in the same manner as cereals, except that one and one-half times as much water as cereal is used. After cooking they should be strained and reheated.

FRUITS AND FRUIT JUICES.

Orange and all other fruit juices should be strained through a wire strainer or a cloth, so as to remove every particle of solid matter, and, in addition, should be diluted by using an equal quantity of water for a baby of five months, gradually diminishing this amount until the juice is given pure.

APPLES. Apples may be stewed or baked. All cores, seeds and skin must be removed before serving to children. Raw scraped apple may be given after the second year.

STEWED PRUNES. One pint prunes; one quart water; two to four tablespoonfuls sugar. Wash prunes thoroughly in plenty of water. Soak them overnight in the quart of cold water. In the morning, cook them in the water in which they were soaked, cooking over a slow fire until wrinkles disappear and the prunes are plump but not broken. Add sugar to taste, as some prunes are sweeter than others.

EGGS.

CODDLED EGGS. One pint of hot water, not boiling. Drop egg into water and remove from stove at once. Let it remain off the stove from five to eight minutes. White should be set and yolk soft.

Coddled eggs are preferable to ordinary soft-boiled eggs, as in the latter there is a rim of hard-boiled white next the shell.

SOFT-BOILED EGGS FOR CHILDREN. Put a pint of water in the top of a double boiler, and bring to the boiling point, while the water in the lower part is coming to a boil. Remove both from the fire, and add to the upper part of the boiler three tablespoonfuls of cold water, and the egg or eggs to be cooked. Cover and set into the lower part of the double boiler. Allow to stand off the fire for five minutes by the clock and serve at once.

BREADS.

Fresh bread or ordinary breakfast toast is not suitable for a baby.

ZWIEBACK OR TWICE-BAKED BREAD. Slice down a loaf of bread and spread it loosely about in a baking-pan. Put it in the warming oven or a low-temperature baking oven for six hours or more. This heat need not be applied continuously, but the oven may be utilized while several meals are being prepared.

ZWIEBACK MUST NOT BE BROWNED. It should remain in the oven until when a piece is lifted by one corner it will break of its own weight. Zwieback will be enjoyed by invalids or dyspeptics who can not eat fresh breads.

TOAST. Take zwieback or bread which has been sliced thin and thoroughly dried and toast lightly.

BRAN BREAD. One cup of cooking molasses, one teaspoonful of soda, one small teaspoonful of salt, one pint of sour milk or buttermilk, one quart of bran, one pint of flour. Stir well and bake for one hour in a slow oven. It may be baked in a loaf or in gem pans as preferred.

Bran bread is a very good laxative for older children and for adults.

VEGETABLES.

Instead of using flour and making a white sauce for the vegetables, a sauce may be made by adding the yolk of an egg to one cup of milk or by adding three tablespoonfuls of finely ground zwieback to a cup of milk. Almost all vegetables are very good if served simply with salt and melted butter. All vegetables for children should be mashed very fine, or put through a coarse sieve.

CAULIFLOWER. One small head of cauliflower, one quart of water, two teaspoonfuls of breadcrumbs, one teaspoonful salt, one-half cup sweet milk, one teaspoonful butter. Clean and break up cauliflower and cook it twenty minutes in boiling water with a little salt. Drain. Make a sauce by heating the milk, adding crumbs, butter and salt to it. Pour this sauce over the cauliflower, which has been finely mashed.

SPINACH. Cook spinach in salted water until tender. Pour cold water over it and drain. Chop fine or rub through a coarse sieve. To two tablespoonfuls of spinach, add one teaspoonful of fine bread crumbs or zwieback crumbs, one-half teaspoonful melted butter and a pinch of salt. Reheat and serve.

ASPARAGUS. Tie together one-half bunch of asparagus and cook in about a pint of boiling water, or enough to cover. When tender, remove from the water, untie and place on a warm plate. Remove pulp by taking hold of the firm end of the stalk and scraping lightly with a fork toward the tip. Use pulp only. Season with salt and butter. Reheat and serve. This may be served on zwieback if desired.

CARROTS. Cook one-half pound of young carrots in one quart of boiling water. Drain when tender, rub through a sieve, add one teaspoonful bread crumbs, butter and salt. Reheat and serve.

GREEN PEAS. Add one cup of fresh green peas to a half cup of boiling water. Cook until tender, add butter, salt, two tablespoonfuls of fresh cream, heat, but do not boil. Put through a coarse sieve and serve.

BAKED POTATOES. Select smooth, medium-sized, old potatoes; wash carefully and pare a slender strip of skin from around the potato or one end may be cut off to allow steam to escape while baking. Put in moderate oven and bake until soft. For children, a potato can not be too well done. Take from oven and break open so the inside does not become soggy. Lay in napkin and serve as soon as possible.

MEATS.

SCRAPED BEEF OR MUTTON. Take meat, preferably from the round, free from fat. Place on a board and scrape with a silver spoon. When you have the desired amount of meat pulp, shape into small balls and shake in a hot dry spider until brown. Do not cook too long. When done, season with a little salt and butter and serve. A few drops of lemon juice may be added.

BEEF JUICE. Broil lightly a piece of the round of beef, cut in strips, and squeeze the juice out with a meat press or a large lemon squeezer. The juice may be extracted without cooking the meat at all. This is accomplished by soaking beef in cold water. Use a pound of chopped round of beef. Put it in a glass jar with one-fourth as much water. Turn the jar upside down now and then and allow the meat to soak for several hours or overnight, keeping it on ice. In the morning, empty the whole into a coarse muslin bag and squeeze out the juice. Season with a little salt. This juice should not be cooked, but warmed slightly before feeding it by setting in a pan of hot water, and may be added to milk if desired. If needed more quickly, put the beef in a bowl with crushed ice. Cover the meat and ice with a small plate weighted down with a flatiron.

BROTHS.

CHICKEN, BEEF OR MUTTON. Take a pound of meat free from fat and add to one quart of water. Cook for three hours. Add water from time to time as it evaporates, so that there will be a quart of broth. Cool, remove fat, strain and add a little salt. Broths may be served hot or cold.

SIMPLE DESSERTS.

BOILED CUSTARD. Three-fourths cup milk, one egg yolk, three drops of vanilla, one tablespoonful sugar, speck of salt. Beat eggs slightly. Add sugar and salt. Heat the milk in the upper part of the double boiler and add it gradually to the egg mixture, stirring constantly. Cook over hot water, stirring until the mixture thickens and coats the spoon. Do not overcook or the eggs curdle and the custards will be indigestible. Strain the custard, chill and flavor.

BAKED CUSTARD. One cup milk, one egg, one tablespoonful of sugar, speck of salt and four drops of vanilla. Beat the eggs slightly. Add sugar and salt. Strain into small buttered molds, set in a pan of hot water. Bake in a slow oven until firm, or until a silver knife comes out clean. If oven is too hot, water will boil and the custard will curdle. Do not cook too long.

PLAIN BREAD PUDDING. Three-fourths milk, yolk of one egg, two tablespoonfuls sugar, one-third cup zwieback or one-half cup fresh bread, speck of salt, and five drops of vanilla. Break bread into small pieces. If the zwieback is used, pour over it four tablespoonfuls of hot water and let it stand while preparing the custard. Heat the milk in a double boiler. Pour it over the egg, which has been slightly beaten and to which the sugar and salt have been added. Flavor and bake in a moderate oven, setting the pan into hot water. Cook until firm.

RICE PUDDING. One cup cooked rice, one egg, three-fourths cup milk, three tablespoonfuls granulated sugar, speck of salt and five drops of vanilla. Cook rice in a double boiler, using one-fourth cup rice to one cup water. This cooking will require about forty-five minutes. Scald the milk and add it to the slightly beaten egg, sugar and salt. Pour this over the cooked rice. Put into a buttered baking dish and bake in a moderate oven, setting the baking dish into a pan of hot water.

JUNKET. Junket tablets may be obtained from almost any grocer or druggist. Buy the best grade.

Put into a cup one tablespoonful of cold water and one junket tablet. Crush and let stand while preparing the milk. Heat one quart of sweet milk barely lukewarm and add four tablespoonfuls of sugar. Flavor with vanilla, pour immediately into molds and set aside in a warm room until firm as jelly. The junket will not set if the milk is too hot, if the junket is put in the refrigerator, or if the molds are moved or the milk stirred after it begins to set. The tablets may be divided and the same proportions used. It may be served with cream, soft custard or jelly.

BLANCMANGE. Four tablespoonfuls cornstarch, two cups of milk, two tablespoonfuls sugar, one-fourth teaspoonful salt, one teaspoonful vanilla. Mix the starch with a little of the milk cold and add the sugar and salt. Add this to the rest of the milk that has been scalded, stirring constantly until the mixture thickens. Cook at least fifteen minutes in double boiler to make the starch digestible. Add flavoring and pour into molds dipped in cold water. Chill and serve with cream or soft custard.

CORNSTARCH PUDDING. Follow the directions for blancmange; but add at the last an egg or egg white well beaten to make it richer. Do not cook after adding the egg, but allow it to stand a few minutes in a double boiler.

PART II.

Baby Saving Campaigns.

No universal program for baby-saving campaigns can be offered because each community must begin at the point which is shown to be most urgent in the local conditions and which it is practicable to remedy. A few things, however, may be done by each city or community, and in this manner public sentiment for greater things may be aroused.

Milk Inspection.

The milk supply is a point of first consideration in baby-saving campaigns. Pure, clean milk is something that every citizen of Kansas is entitled to have, especially the baby. When produced in unclean surroundings or handled carelessly, milk used by babies is certain to produce intestinal trouble and frequent deaths. The character of the milk also plays an important part in the health of the entire community.

Kansas has not solved this unclean milk problem, and it is only through the united efforts of the health and municipal authorities, working in harmony with the producer of clean milk, that it will be solved. For Kansas conditions there should be only two grades of milk: good and bad.

Each city of 3000 or more inhabitants should have a milk ordinance, including the tuberculin test for cattle. The score-card system of inspecting the dairies is of great value in improving the condition of the dairy, providing the inspection is made at least once a month, and especially if the scores are published. Those handling the milk should receive medical inspection so that danger of communicable diseases may be eliminated.

During the hot summer months, baby milk stations may be established where those requiring milk for their children may obtain the wholesome article, kept on ice in order to prevent excessive growth of bacteria.

Bad Housing.

A large number of disease-producing conditions are covered by the term "bad-housing." The remedy lies in passing and enforcing better building regulations, the supervision of all construction and the study and investigation of congestion. This field is so large that it is not possible to accomplish much in a short campaign beyond giving the matter publicity and agitating a change in the conditions found present.

Many of the accompanying evils, bad ventilation and lack of cleanliness, can be remedied by the influence of visiting nurses, instructions to Little Mothers Leagues and to other organizations, through printed matter distributed and the press. Such efforts tend to lower the death rate from such diseases as pneumonia and bronchitis, which make up approximately fifteen per cent of the total causes of infant mortality.

Clean-up Days.

Flies carry infection to the food for adults. They also carry the germs of cholera infantum to the baby's bottle and directly to his mouth. To limit the breeding of flies is the essential in getting rid of them. This can be done most effectually by giving the city and county health officers power to enforce collection of garbage and to regulate the dumps. Screens for the house are also a part of the campaign against infant mortality.

Dust is a prolific carrier of germs. Germs which develop in the barnyards or the outhouses or the street may be brought into the house and into the baby's food or face on particles of dust. Thus, the importance of permitting the health department to have supervisory control over the street cleaning, especially during the summer months, becomes apparent.

Inspection of Stables.

With the opening of summer, a complete list of all stables and livery barns should be made and thorough measures for the control of fly-breeding and germ-producing places instituted.

The stable fly is recognized as one of the carriers of infantile paralysis. It is not readily distinguished from the ordinary house fly. The stable fly rarely enters the house except just before a storm. The common saying is that "just before a storm the flies bite." The significance of this becomes apparent when it is known that house flies do not bite. It is the stable fly that bites, and it is its bite which may be fatal to young children.

Hospitals.

Although prevention of sickness is the first aim of infant mortality campaigns, nevertheless there should be hospital accommodations for those cases which can not be cared for properly at home. As a city grows, a hospital of this sort sooner or later becomes a necessity. In almost any hospital it is possible to turn over to the exclusive use of children some of the beds and facilities so that, in case of emergency, there will be some place where sick babies may be given adequate care.

Fresh Air.

Small public parks should be located every few blocks so that mothers may bring their little folks on hot afternoons and permit them to play on the grass.

Amusement parks are not good for children. Large parks at the edge of town should be easily accessible by street car. It should have sand piles and other special provision made for babies.

Public-health Officer.

All cities should have a public-health officer on whole or part time, whose duty it is to attend to the details of public-health work. He can accomplish little, however, without the support and the sympathy of the citizens, but with their coöperation he can make the city a healthful place in which to live.

Public-health Nurse.

The public-health nurse is one of the corner stones of all public-health work. Whenever possible her salary should be paid by the city or by the school board so as to give her work official sanction.

The public-health nurse does the many little things which the doctor can not do, and which add so much to the comfort of the patient and which aid his speedy recovery. In an infant-mortality campaign, her services are almost indispensable for the young or inexperienced mothers.

Where a public-health nurse can not be employed, an arrangement may be made with a local hospital to furnish a student nurse who is interested in public-health nursing for part time for service. The public-health work is a new field for graduate nurses, and the demand is greater than the supply. By utilizing student nurses in this manner many Kansas nurses may receive training and experience in this work.

Physical Supervision of School Children.

The importance of physical supervision for school children is beginning to be recognized. Many children suffer from physical handicaps unknown to their parents and the teacher, and such deficiencies are the cause oftentimes of the failure to make grades. A thorough inspection reveals those defects, and, if they are properly attended to, a change is seen in the child's demeanor and in his health.

The elimination of retarded children will be a big saving of money for the school board, and the betterment of the children and the happiness of the parents will make great returns on this investment.

Educational Work.

Perhaps the farthest reaching and the most lasting part of the campaign against infant mortality is public-health education carried on by means of circulars, posters, the press, moving-picture theaters, the school-room, the pulpit, and other agencies.

The monthly health bulletins of state boards of health furnish good material for this public instruction, as do also the publications of the National Bureau of Child Hygiene and city health bulletins.

Of especial importance are the pamphlets on baby care which should be mailed to the mother immediately on receipt of the notice of the birth of a child.

Baby Week.

Baby Week is a plan which is being adopted by many cities to stimulate the interest of the general public in saving baby lives and to promote general health campaigns. It may profitably be held as the culmination of a year's work in child hygiene stations.

Baby Week may include a physical examination of children under school age, public health exhibits, public lectures on health, baby health posters and other educational features.

ORGANIZATION.

A city or organization desiring to conduct a Baby Week should first appoint an efficient executive committee, who can secure coöperation of all organizations interested, including the local medical society. Subcommittees or chairman may be appointed at the discretion of the executive committee and be responsible to them.

SUGGESTED CHAIRMEN.

Chairman on Publicity, who prepares and forwards notices of Baby Week to all the papers, advertises the meeting by posters, circulars and announcements through the schools, churches, clubs and other organizations.

The chief of the Division of Child Hygiene will appreciate the courtesy if one copy of each notice that appears relative to Baby Week and interesting photographs of Baby Week are sent to the division.

Chairman on Exhibits, who secures a central location for the exhibit and installs it. This chairman selects persons to serve as demonstrators to waiting mothers and visitors and to pass out literature.

Chairman on Programs, who arranges for an educational health program for one or more evenings and secures speakers.

EXAMINATION OF BABIES.

A great deal of interest is aroused and the problems of child hygiene are brought to parents in a close personal way by the physical examination, according to the American Medical Association score card, of children under school age.

Where this is undertaken, the following committees are essential:

Chairman on Arrangements, who secures a suitable place for the examination. A room in a public school is the most satisfactory. In small cities, one school will answer. In larger cities or where the population is scattered over considerable area, an examination should be arranged for in each school district. A church or club room will answer. Tents at fairs will not suffice, because of the lack of convenience and proper sanitation. This chairman also secures the necessary equipment and supplies and places them in readiness before the time for the examination.

Chairman on Registration, who secures from the local registrar and other sources the names of children under six years, accepts applications for registration, appoints the time for their examination and notifies the parents of the day and hour.

Chairman on Examiners and Assistants, who secures the coöperation of physicians and nurses and arranges with Chairman on Registration, that the requisite number of examiners and assistants are selected for

each day This chairman should supply each physician with an American Medical Association score card, Pamphlet No. 5, and a copy of this pamphlet, several days before the examination.

Chairman on Scoring, who takes the cards after the examination, scores them and fills out the certificates. This scoring chairman should have assistants to copy score cards. One copy is given to the mother, one is returned to the Division of Child Hygiene, and the original is filed by the organization in charge of Baby Week.

EQUIPMENT.

The equipment for the examination of children according to the American Medical Association score card consists of a measuring board with a stationary head piece and a foot piece sliding in a groove beside a scale on the board; one pair of scales with suitable pan for children; one stethoscope; two linen tape lines; one pelvimeter; box of wooden tongue depressors; flash light for nose and throat inspection; articles and toys used in the mental and developmental tests; one box of uncolored, pure candy; writing tablets and pencils; millinery paper hat bags; supply tissue paper towels; small paper tags with red strings; kitchen tables and chairs; soap, water and towels for the examiner's hands.

DIVISION BY AGES.

The children to be examined should be allotted to divisions by ages as follows: First division, 6 to 12 months, inclusive; second division, 13 to 24 months, inclusive; third division, 25 to 36 months, inclusive; fourth division, 37 to 48 months, inclusive; fifth division, 49 to 60 months, inclusive.

The first division may be omitted at the discretion of the Executive Committee. This is recommended in the examining of a large number of children, where children need to be brought for a considerable distance or where the sanitary arrangements are not up to the hospital standards.

Different age divisions should be examined at different days or at different periods. It greatly simplifies matters for the examiners and for the scorers to examine all children of one division at one time.

EXAMINERS.

The full quota of examiners, according to the American Medical Association score cards, consists of: one physician, nurse or kindergartner to make the mental test; one dentist for oral hygiene and dental examination; one eye, ear, nose and throat specialist, if possible; two physicians for the physical examination; two nurses on measurements, one to weigh and measure and one to check; one record taker; one or more scorers; two dressing-room assistants.

When there are a large number of children to be examined it is best to allow each examiner an assistant.

TIME.

The time required for the complete examination is from ten to thirty minutes, consequently, with a full quota of examiners, an average of twenty children may be examined for each working hour. No time is saved by sending children ahead of their regular turn, but a great deal of confusion may result.

PROCEDURE.

When a mother presents her baby for examination at the receiving station, a number is written on a small ticket and tied to baby's wrist with a red ribbon. It is a wise precaution to station a nurse at the receiving table to exclude from the examining room any child who is suffering from a cold, rash or other evidence of communicable disease.

When he is ticketed, the baby's outer wraps are removed and placed in a paper hat bag which bears his number. This hat bag is sent to the dressing room. Everything that is done for the child should be done in a spirit of play, and if properly handled the child will enter into the game and thoroughly enjoy it. A great deal of patience should be exercised with the child who is frightened, but a child who begins to scream and shows evidence of defective training should be at once excluded from the examination. It is not fair either to the child or to the examiner to attempt to examine a screaming, kicking child. The child's number is also entered on the score card (Entry No. —), and he is sent with a blanket and his toy to the record taker.

The record taker fills out the first page of the score card and sends mother and baby with the card to the mental examining station. The mental examination should be conducted most informally and before the child is permitted to get frightened or excited. The examiner, if he wishes, may go about informally among the children, watching them play, talking with them, and closely observing them when they are unconscious of being examined. When this record is made they are sent to the undressing room.

This room should be provided with ordinary kitchen tables and chairs. Baby's clothes are removed, placed in another hat bag bearing his number, and he is sent to the dressing room. Wrapped in his blanket and happy with his toy, baby waits his turn for his examination.

The nose and throat examination should be made first, if possible, and any child having a sore throat should be excluded from further examination. Each examiner is provided with a table, and baby is passed along as soon as each entry is made on his card. It has been found by experience that babies object most to the weighing and measuring, hence this is done last. If the child makes strenuous objections, a small piece of pure, uncolored candy will help soothe his ruffled feelings.

As soon as the examination is completed the score card is given to the Scoring Chairman, who glances over it at once to see that nothing is omitted. Baby is then conducted to the dressing room where his garments are. This room, also, should be well supplied with tables and chairs.

SUGGESTIONS FOR COMPUTING THE SCORE OF THE AMERICAN MEDICAL ASSOCIATION SCORE CARD.

The computing of the scores is next in importance to the examination. More uniform results are attained if one chairman scores throughout the examination. This chairman should be some one who is quick and accurate with figures.

The examiner marks an "X" after each test where there is a defect. The total penalties for defects are added and the sum taken from the

total score for each division. The sum of all the divisions makes the total score.

Computing the score for weights and measurements is usually the most difficult, but it need not be if a few principles are borne in mind. The anthropometric table of measurements compiled by the American Medical Association is used as a basis. It is not expected that any child will conform exactly to this table. A reasonable allowance, too, should be made for errors in measuring, for it is extremely difficult to measure accurately a fat, squirming baby. One-half inch above or below the given table, or one pound weight, is a fair allowance.

The *perfect proportion* of the child is the important consideration. Take the *height* and not the weight or age as a basis for computing this score. If the child's weight, circumference of head, chest, abdomen and length of arms and legs are in correct proportion to his height, according to the table of standards, he is not penalized for any of these measurements.

Then compare the height with the age. If he is more than one-half inch above or below the standard for his age in months, penalize him the amount for height only; otherwise he receives a perfect score for the division of weights and measurements.

LITERATURE SUPPLIES.

American Medical Association Score Card; three for each possible entry. One copy is to be returned to the Child Hygiene Division, one to be given the mother, and one to be retained by the organization conducting the examination.

American Medical Association Anthropometric Tables of Weights and Measurements; two for Scoring Committee.

American Medical Association Pamphlet No. 5; one for each examiner and chairman of committee.

Certificates; one certificate for each possible entry. Those not used to be returned.

Leaflets on Child Hygiene; one copy for each mother and visitor to the exhibit.

The above supplies are sent free, except for express or parcel-post charges, by the Division of Child Hygiene, State Board of Health, Topeka, Kansas.

A limited number of excellent monographs on Infant Care may be secured free for distribution by applying to Julia Lathrop, Chief National Children's Bureau, Washington, D. C.

CERTIFIED BABIES.

In order to obviate the heartaches and petty jealousies of baby examinations when the babies contest for points and for prizes for high scores, the Division of Child Hygiene will issue a certificate to every child examined.

Any child who can pass the American Medical Association score-card examination with a grade of 90 or more will receive an engraved certificate, Grade A.

Grade B certificates are issued to all who pass with a grade of from 80 to 90. This card is intended for children having remediable defects, and who can, by proper attention, be brought up to Class A. It is not intended that one defect should put a child in Class B, but a combination

of several defects sufficient to bring the score below 90. The Scoring Committee may use their discretion in border-line cases in awarding the Grades A-minus or B-plus, and, in exceptionally high-scoring children, the grade of A-plus.

PROGRAMS.

During Baby Week one or more educational programs on child hygiene should be given.

On the last evening, when the examinations have been completed, the certificates for the babies may be distributed. It is not wise to give out publicly the names of those who won Class A or Class B certificates. Most people are sensitive about defects in their children, and no one should be hurt or humiliated by having anything concerning the examination of his child made public.

Music is always a valuable addition to a meeting. If the hall, room or auditorium, or at least the stage, can be tastefully decorated with seasonable flowers it adds much to the pleasure of the audience. The meetings should be made a social occasion, characterized by happy spirits and an abundance of good will.

When time and circumstance permit, the secretary or other officer of the State Board of Health or the chief of the Child Hygiene Division will be pleased to be present and deliver an address.

Suggestions for Programs.

1. Music.
Illustrated lecture on milk.
Short talk by local dairyman and health officer or milk inspector.
2. Music.
"What Our Town is Doing for Child Hygiene and What it Should do."
Instructive talks by a local health officer, superintendent of schools, minister, club women.
Illustrated lecture or moving pictures.
3. Music.
Lecture, "What We Learned at Baby Week," by physician or officer in charge.
Presentation of certificates to parents.
Illustrated lecture or moving pictures.

Permanent Child Hygiene Stations.

The best results for children are attained when they may have periodic examinations by examiners who are giving a major portion or all of their time to this work. To this end, wherever possible, a permanent child hygiene station should be opened. The station should be in charge of a nurse specially trained in child hygiene. The Public Health Nursing Association, Parent-Teacher Organization, the local women's clubs, school board and other organizations may be asked to coöperate to secure such nurse or teacher of hygiene.

The station should be open one or more days each week, sufficient to permit the weekly weighing of all babies under one year of age in the district. Blanks for this purpose are furnished free of charge by the Division of Child Hygiene.

At convenient intervals, one or more physicians may arrange to examine the children over six months and under six years of age, according to the American Medical Association score card. This should be so arranged that each child registered is thoroughly examined once or twice each year. Score cards and certificates of examination are furnished free by the Division of Child Hygiene. A great deal of interest is aroused by making the awarding of these certificates gala occasions with suitable celebration and program once or twice a year.

It should be borne in mind that most babies of six months are nearly perfect and score very high. As they develop and grow older, cut their teeth and begin to walk, talk and run about, there is a greater opportunity for scoring against them. Therefore, a child's score has a tendency to come down rather than go up. If a child who scores high holds its own for several years it may be considered to be doing remarkably well. This fact should be explained to the mother, else she will be discouraged to learn that her baby scores lower at the second and third examinations.

LOCATION.

The public schoolhouse is the ideal location for a child hygiene station. In most school buildings a room may be found which can be used for a child hygiene station one-half or one day each week and in which the records and necessary equipment may be kept. This plan has the approval of the state department of education.

A room in the city building or other public building may serve, but the farther the mother is compelled to go in order to reach the station, the more difficult it is for her and the less likely she is to attend.

EQUIPMENT.

The furnishings of a station should be of the simplest and plainest kind. Each should be equipped with a good pair of scales and suitable pan for weighing the babies; table and utensils for teaching the modification of milk; complete set of correct baby clothing; blackboard; sufficient chairs and suitable records.

If funds and space permit, a model nursery may be provided. A permanent child hygiene station, too, can have a permanent exhibit.

INSTRUCTION IN THE STATION.

The mother who brings her baby each week to be weighed incidentally learns a great deal about baby care. She can get a great deal more, if regular classes are instituted and lectures are arranged on various phases of child hygiene for mothers and prospective mothers.

For suggested courses for mothers, see outline, page 236.

Where possible, a social cup of tea or light refreshments may be served.

Things You Want to Know.

Is your town a good place in which to raise babies? They must have fresh air, wholesome milk and pure water else they will sicken and die.

Is the air in your town fresh and pure or are there disease-breeding places of filth, which the flies and dust "Airships to His Majesty, the Microbe," carry into your homes?

Is your milk supply carefully inspected and certified, or are you buying for your children milk, plus water, plus dirt?

Is your water supply pure or are you drinking water polluted by the sewage of other districts?

Is your food supply clean and wholesome, or is it exposed to flies and dirt? Is it adulterated, or do you get 100 cents on the dollar and 16 ounces to the pound?

These and many more things you will want to know about the town you live in.

Accurate and up-to-date information will be furnished you by the State Board of Health. Address Dr. S. J. Crumbine, Secretary, Topeka, Kansas.

Lectures and Films.

ILLUSTRATED LECTURES.

Lantern slides and memoranda for lectures are furnished by the State Board of Health. Express charges both ways are paid by the recipient and a charge of twenty-five cents is made for each broken slide.

Lectures can be supplied on the following topics:

- (1) Tuberculosis.
- (2) Clean Milk and Safe Milk.
- (3) The Filthy Fly.
- (4) Fakes and Fakers.
- (5) General Sanitation and Health.
- (6) Man and the Microbe.

MOVING-PICTURE FILMS.

Moving-picture films are loaned by the State Board of Health to responsible parties. Express charges both ways are paid by the recipient and reimbursement for loss or damage to the films must be guaranteed. These films present an entertaining story in addition to their educational value.

Films are furnished on the following topics:

- (1) Tuberculosis.
- (2) Typhoid.
- (3) The Fly.

For illustrated lectures and films, apply to S. J. Crumbine, M. D., Secretary State Board of Health, Topeka, Kan.

Health Exhibit.

The State Board of Health Exhibit consists of six screens of four panels each. Each panel measures three by six feet. The exhibit requires sixty running feet of floor space, five feet wide, exclusive of the space for visitors. The exhibit weighs 1080 pounds and the freight charges average about \$10.

The freight and drayage charges are paid both ways by the recipient, and the State Board of Health must be reimbursed for loss due to carelessness in handling and packing.

The exhibit has a splendid educational value. It is especially recommended for conventions, institutes, school functions, fairs, Baby Weeks and other large aggregations of people who are interested in public health education.

Applications for the exhibit should be made more than a month prior to the week for which it is wanted, to S. J. Crumbine, M. D., Secretary State Board of Health, Topeka, Kan.

Little Mother's League.

The Little Mother's League is a volunteer organization of sixth-, seventh- and eighth-grade school girls, originated by the Division of Child Hygiene of the New York City department of health, for the purpose of teaching girls the fundamentals of child hygiene and to help in the fight against children's diseases and child mortality. No small part of the credit for the remarkably lowered infant mortality rate of New York City is given to the Little Mother's League, which has been called appropriately the "largest volunteer life-saving corps" in the world.

The Little Mother's League is a self-governing organization, the members electing their own officers and fixing their own duties. There are no dues. Each girl who joins is given a card of membership, and all who attend the meetings regularly are graduated and are given a Little Mother's League certificate.

The course consists of a series of talks and demonstrations by a volunteer nurse, teacher, doctor or a mother. These cover handling and dressing the baby; proper bed, sleep and exercise for the baby; care of the eyes, ears, nose, throat and teeth; preparing food, giving the bath, and general cleanliness and necessity for fresh air.

Each little girl may make with her own hands one or more baby garments. She may modify the milk for different ages, prepare the baby's bath, etc. In the demonstrations, a life-sized doll is used, but sometimes a real baby is brought to the class. Such a lot of fun to get the room ready and everything clean enough for the little visitor!

Incidentally, while learning the care of the baby, the little girl learns a great deal of general hygiene and of the necessity for keeping her own body clean and wholesome for the sake of her babies when she becomes a real mother.

Complete plans for organizing Little Mother's Leagues, membership cards, outlines of lessons and diplomas will be sent free, on application, by the Division of Child Hygiene, State Board of Health, Topeka, Kan.

Boys' Organization.

An organization for eighth-grade boys is contemplated by the Division of Child Hygiene.

Boys of this age are worshipers of heroes, and the reason why so many of them develop bad habits is because they have come into contact with the wrong kind of hero. A clean athletic man who loves boys can be an inestimable factor for good in the lives of these boys by exemplifying and inspiring the right kind of ideals. Where such a man can be found, the success of the boys' organization is assured.

Boys are interested in the great out-of-doors, so Camp Craft and First Aid to the Injured are suggested as a basis for the organization. However, the work as well as the name is still a matter of investigation and study.

Those who have had experience with boys are earnestly requested to offer their suggestions and opinions, and correspondence in reference to the organization is solicited. Address

DR. LYDIA ALLEN DEVILBISS,
State Board of Health,
Topeka, Kansas.

Junior Health Officers.

The Junior Health Officers is a movement originated by the Kansas State Board of Health and promoted through the city and county health officers.

A Junior Health Officer is elected in each school room to serve for one week. His or her duties are to note the daily temperature outside and inside the school room; note the cleanliness and ventilation of the room; note the absentees and the reason for their absence; note whether or not absentees by reason of contagious diseases were properly quarantined and the proper sanitary measures observed before they returned to school, and a number of other duties.

At the end of the week, the Junior Health Officer makes out a complete report, which is approved by the teacher and is forwarded to the superintendent of schools, who in turn forwards it to the proper health officer. The children enter into the spirit of this plan with great enthusiasm, and in the discharge of their duties they gain a good conception of the individual responsibility in personal and public hygiene.

The Division of Child Hygiene will furnish attractive badges for the Junior Health Officers for the school year 1915-'16. Badges and report blanks may be obtained through the city or county health officer.

Blind Babies.

The state of Kansas makes an especial effort to care for the children who are handicapped by being blind.

Many parents do not know that state aid and instruction are available for their afflicted ones. So the little ones are allowed to grow up without

adequate training and are compelled to spend their lives in darkness, when expert instruction would have opened the world to them.

If any one who reads this bulletin knows of a blind child or a blind person, he or she will confer a special favor by sending the name and address to the State Board of Health, Topeka, Kan.

Child Hygiene for Mothers.

The state superintendent of public instruction, coöperating with the Division of Child Hygiene, is pleased to offer for mothers and prospective mothers short unit courses in various subjects of child hygiene, wherever five or more mothers of a school district form a class and request such instruction. Each subject may be covered in a series of from two to fifteen lessons, and each is complete in itself. These classes may be conducted independently or as a part of the work of the Parent-Teacher Association or other club or a child hygiene station. Certificates will be issued to mothers as they complete each subject.

It is recommended that wherever possible the services of a graduate nurse be secured for the instructor. Outlines of these courses are not arranged, as the trained nurse will know how to arrange her own courses to best fit the local conditions.

For further information, address Dr. Lydia Allen DeVilbiss, Chief Division of Child Hygiene, State Board of Health, Topeka, Kan.

SUGGESTED SHORT UNIT COURSES IN CHILD HYGIENE FOR MOTHERS.

- | | |
|---|--|
| 1. Parental Care of Mother and Baby. | 6. Daily Care of the Baby. |
| 2. Feeding of Infants. | 7. Home Nursing for Sick Children. |
| 3. Feeding of Children from One to Six Years. | 8. First Aid to the Injured. |
| 4. Making Infant's Clothing. | 9. Elementary Hygiene and Home Care of the Sick. |
| 5. Making Children's Clothing. | 10. Social Hygiene for Mothers. |

SUGGESTED TEXTBOOKS.

Any recognized textbook.

COURSES 1 TO 7:

Bulletin, "Save the Babies," American Medical Association, Chicago.
 Bulletins, State Board of Health, Topeka.
 Bulletin, National Children's Bureau, Department of Labor, Washington, D. C.
These bulletins are sent free on request.

COURSES 8 AND 9:

Textbooks of the American National Red Cross Association, Washington, D. C.
 First Aid to the Injured, 30 cents. Postage extra.
 Elementary Hygiene and Home Nursing for the Sick, \$1. Postage extra.

COURSE 10. Social Hygiene for Mothers:

Pamphlets of American Social Hygiene Association and Society for Sanitary and Moral Prophylaxis, both at 105 West 40th St., New York City.
Pamphlets sent free on request.

Outline of study furnished free by Division of Child Hygiene, State Board of Health, Topeka, Kan.

"Father's Clubs."

"What sort of a father are you?" This question is found on every program of what is claimed to be the first fathers' club in the United States, organized at Council Bluffs, Iowa, a little over a year ago, according to information received at the home education division of the United States Bureau of Education.

Ten clubs, with an average membership of fifty, have been formed during the year for the purpose of "bringing the fathers into closer touch with the children, the teachers and board of education, in an endeavor to bring about the very best results for the betterment of the children." The motto of these clubs is, "Make the Indifferent Different." Membership is limited to men twenty-one years of age or over.

Each month the "fathers' clubs" debate such questions as: "Are our children trained for, or away from, the age in which we live?" "How many children out of 1000 reach high school in our town?" "What about the rest?" Or they discuss topics such as the following: "Comparative public expenditures in various states," "juvenile courts," "schoolhouse instruction," "the sex question," "compulsory education," "open-air schools," "playgrounds," "medical inspection," "business education," "the cultural influence of newspapers, magazines, music, books, etc.," "women on the school board," "the schoolhouse as community center."

Guests representing various community groups are invited to the meetings, interested fathers from other districts, clergymen, physicians of the neighborhood, members of the board of education, mayor and city council, and the bar association. The clubs were addressed at different times during the year by a judge of the United States circuit court, university professors, senators, school superintendents, a judge of the superior court, a member of the State Board of Education, as well as other interested citizens.

It is planned in the near future to form the existing clubs into a federation, with a uniform program for all the clubs every month.

Address: Department of the Interior, Bureau of Education.

MORBIDITY REPORTS FOR JUNE, 1915.

Number of cases reported from each county.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Measles.....	Smallpox.....	Mumps.....	Chicken pox.....	Whooping cough.....	Meningitis.....	Polio-myelitis.....	Trachoma.....	Pellagra.....	Other communicable diseases.....
THE STATE.....	36	69	34	1038	248	81	52	231	1	21	12	7	10
Allen.....	0	2	0	2	1	0	0	12	0	0	0	0	0
Anderson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Atchison, except.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Atchison city.....	0	0	0	0	8	0	0	0	0	0	0	0	0
Barber.....	0	0	0	2	1	2	0	0	0	1	0	0	0
Barton.....	0	0	0	6	0	0	2	0	0	0	0	0	0
Bourbon, except.....	2	1	0	20	1	0	0	0	0	0	0	0	0
Fort Scott.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Brown.....	0	0	0	12	0	0	0	0	0	0	0	0	0
Butler.....	0	2	0	8	0	0	5	0	0	0	0	1	4
Chase.....	0	0	0	6	0	0	0	0	0	0	0	0	1
Chautauqua.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherokee.....	2	1	0	3	7	0	0	10	0	0	0	0	0
Cheyenne.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Clay.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Cloud.....	0	1	1	11	0	0	0	0	0	0	0	0	0
Coffey.....	0	1	2	6	0	0	6	0	0	0	0	0	0
Comanche.....	0	0	0	0	7	0	0	0	0	0	0	0	0
Cowley.....	0	0	2	18	0	0	3	3	0	0	1	0	0
Crawford, except.....	3	7	0	1	15	0	0	11	1	0	0	0	0
Pittsburg.....	0	1	1	0	10	1	0	1	0	0	0	0	0
Decatur.....	0	0	0	0	0	1	0	0	0	0	0	0	0
Dickinson.....	0	0	0	2	14	0	0	0	0	0	0	0	0
Doniphan.....	0	0	0	64	0	0	0	0	0	0	0	0	0
Douglas.....	0	1	0	7	1	1	1	0	0	0	0	0	0
Edwards.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Elk.....	0	0	2	2	0	0	0	0	0	0	0	0	0
Ellis.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Ellsworth.....	0	3	0	27	0	4	0	1	0	0	0	0	0
Finney.....	0	0	0	3	0	0	0	0	0	0	0	0	0
Ford.....	0	0	0	0	2	0	0	0	0	0	0	0	0
Franklin.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Geary.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Gove.....	0	0	0	0	0	1	0	1	0	0	0	0	0
Graham.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	0	0	0	0	2	1	0	0	0	0	0
Greeley.....	0	0	0	0	10	0	0	0	0	0	0	0	0
Greenwood.....	0	0	0	3	2	0	0	0	0	0	1	0	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Harvey.....	2	0	0	20	0	0	1	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	2	0	0	10	1	0	0	0	0	0	0
Jackson.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Jefferson.....	0	0	1	2	15	0	0	0	0	0	0	0	0
Jewell.....	0	0	0	20	0	0	0	0	0	0	0	0	0
Johnson.....	0	10	0	12	2	0	0	0	0	0	0	0	0
Kearny.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	1	0	5	0	0	0	0	0	1	0	0
Kiowa.....	0	0	0	5	0	0	0	0	0	0	0	0	0
Labette, except.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Parsons.....	1	3	2	66	0	13	0	17	0	0	0	0	0
Lane.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Leavenworth, except.....	1	0	0	1	0	0	0	0	0	0	0	0	0
Leavenworth city.....	0	0	2	1	0	1	1	1	0	0	0	0	0
Lincoln.....	1	0	0	2	0	0	0	5	0	0	0	0	0
Linn.....	0	0	0	0	2	0	0	0	0	0	0	0	1

MORBIDITY REPORTS FOR JUNE, 1915—Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Measles.....	Smallpox.....	Mumps.....	Chicken pox.....	Whooping cough.....	Meningitis.....	Poliomyelitis.....	Tetanus.....	Pellagra.....	Other communicable diseases.....
Logan*													1
Lyon.....	0	1	0	55	0	3	0	0	0	1	0	0	0
Marion.....	1	0	0	21	2	2	0	7	0	0	0	0	0
Marshall.....	0	1	0	0	0	1	0	0	0	0	0	0	0
McPherson.....	0	2	1	0	1	0	0	2	0	0	0	0	0
Meade.....	0	0	0	2	1	6	0	0	0	0	0	0	0
Miami.....	1	0	1	20	0	0	0	0	0	0	0	0	0
Mitchell.....	0	0	0	69	0	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	3	0	0	3	2	0	0	3	0	0	0	0	1
Morris.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Morton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	2	13	0	0	2	0	0	0	0	0	0
Neosho.....	0	2	0	6	1	0	0	107	0	0	0	0	0
Ness.....	0	0	0	0	0	4	0	7	0	0	0	0	0
Norton.....	0	0	0	0	0	1	0	0	0	0	0	0	0
Osage.....	0	0	0	36	1	2	0	0	0	0	0	0	0
Osborne.....	0	0	0	8	0	0	0	0	0	0	0	0	0
Ottawa.....	1	0	0	4	0	0	2	0	0	0	0	0	0
Pawnee.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Pratt.*													
Rawlins.....	0	0	0	0	4	0	0	1	0	0	0	0	0
Reno, except Hutchinson.....	0	0	0	9	3	1	0	0	0	0	0	0	0
Republic.....	1	0	1	20	11	2	3	1	0	0	0	0	0
Rice.....	2	0	0	1	4	11	0	0	0	0	0	0	0
Riley.....	4	0	1	11	15	0	0	0	0	0	0	0	0
Rooks*													
Rush.....	0	0	0	5	1	0	0	0	0	0	0	0	0
Russell.....	0	0	0	38	0	0	0	0	0	0	0	0	0
Saline.....	0	0	0	25	1	3	11	0	0	0	0	0	0
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	0	0	0	2	1	1	1	0	0	0	2	0	0
Seward.....	4	2	3	40	21	7	2	22	0	0	5	0	1
Shawnee, except Topeka.....	0	0	0	0	0	0	0	0	0	0	1	0	0
Sheridan.....	0	0	0	13	1	0	0	0	0	0	0	0	0
Sherman.....	0	0	0	69	12	0	1	0	0	0	0	0	0
Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Stafford.....	1	0	0	2	2	0	0	0	0	0	0	0	0
Stanton*													
Stevens.....	0	0	0	0	7	0	0	0	0	0	0	0	0
Sumner.....	2	0	0	52	1	0	0	0	0	0	0	0	1
Thomas.....	0	1	0	68	0	0	0	0	0	0	0	0	0
Trigo.....	0	0	0	0	0	0	0	2	0	0	0	0	0
Wabaunsee.....	0	0	0	0	3	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington.....	1	0	2	1	1	0	1	0	0	0	0	0	0
Wichita.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	2	2	0	49	0	2	0	0	0	0	0	0	0
Woodson.....	0	0	0	3	0	0	0	0	0	0	0	0	0
Wyandotte, except Kansas City.....	0	0	0	0	29	0	0	0	0	0	0	0	0
Kansas City.....	1	12	3	39	16	0	2	4	0	0	0	0	0

* No report received. Other communicable diseases: Cancer, 4; Pneumonia, 3; Erysipelas, 2; Dysentery, 1.

If Baby Could Talk He Would Say—

Do not kiss me on the mouth.

Do not let the sun shine in my eyes nor the wind fill them with dust.

Do not sneeze or cough in my face, for I may take cold, and that would be bad for me.

Do not expose me to whooping cough and measles or other catching diseases or I may get sick and die.

Do not pick me up by the arms. Be careful how you handle me and lay me down.

Do not give me candy or other things which are not good for me.

Do not give me a dirty pacifier to suck nor allow me to suck my thumb, for it will spoil the shape of my mouth.

Do not rock me to sleep nor teach me other bad habits.

Do not take me to the moving picture show nor keep me up nights, for it robs me of my sleep and makes me cross.

Do not dose me with patent medicines or nasty mixtures.

Do not give me wine, beer or whisky, coffee nor tea, for I want to keep well.

Do not jolt me nor trot me on your knee when I cry.

I want the right things to eat and I want my meals on time.

I want some pure, cool water to drink between meals, for I get very thirsty.

I want a bath every day and plenty of clean clothes.

I want my own bed, a comfortable room with the windows open, and plenty of time for sleep, for I must have it in order to grow.

I want to be taken out of doors every day for the fresh air.

I want mother to love me and always be gentle with me.

I want to be a good baby.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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AUGUST, 1915.

VOL. XI.

CONTENTS.

- Morbidity statistics for July, 1915, page 242.
- Report Division of Food and Drugs, June and July, 1915, page 244.
- Food Analysis LV, page 245.
- Water Supplies for Rural Schools, page 250.
- Public Health Surveys, page 252.
- Eye Strain after Measles, Scarlet Fever, etc., page 253.
- Sore Eyes Caused by Face Powder, page 253.
- Spots Before the Eyes, page 254.
- The "Day of Rest" and Human Efficiency, page 255.

Typhoid fever is reportable.

The late fly is as fully germ laden as the early one.

When tonsilitis and croup kill, give them a true name, "diphtheria."

Apathy, ignorance and carelessness are responsible for the spread of disease.

A number of Kansas cities are passing milk-inspection ordinances. The April BULLETIN woke them up.

Contagious disease and fires—report them *now*, not to-morrow. Delay means sackcloth in one, ashes in the other.

If you haven't any babies, the July BULLETIN may not have interested you. If not, pass it on to some one who needs it.

When parents, teachers and doctors exercise proper care mumps and measles will cease to be perennial "school entertainments."

How long would your neighbors let you store dynamite in your back yard? The unscreened, neglected toilet is just as dangerous.

One-third of typhoid cases are due to polluted water. The rest are carried by food, fingers and flies. If you have typhoid fever, from whom did you get it?

The mother who knowingly permits her children with whooping cough to mingle with other children is guilty of criminal negligence and is an "undesirable citizen."

MORBIDITY REPORTS FOR JULY, 1915.

Number of cases reported from each county

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough....	Meningitis.....	Pellagra.....	Polioomyelitis.....	Mumps.....	Trachoma.....	Chicken pox.....	Other communicable diseases.....
THE STATE.....	129	70	39	92	209	77	0	8	2	35	15	14	33
Allen.....	2	4	0	0	0	4	0	1	0	0	0	0	0
Anderson.....	3	0	0	0	0	0	0	0	0	0	0	0	0
Atchison, except.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Atchison city.....	0	0	0	2	0	0	0	0	0	0	0	0	0
Barber.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Barton.....	5	2	0	1	0	1	0	0	0	0	0	0	0
Bourbon, except.....	3	0	0	0	0	0	0	0	0	0	0	0	0
Fort Scott.....	2	0	0	0	4	0	0	0	0	0	0	0	0
Brown.....	2	0	1	0	6	0	0	0	0	0	0	0	0
Butler.....	5	2	0	0	1	0	0	0	0	0	1	0	4
Chase.....	0	0	0	0	17	0	0	0	0	0	0	0	0
Chautauqua.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherokee.....	10	1	0	2	0	0	0	2	0	0	0	0	0
Cheyenne.....	0	0	0	0	2	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	1	0	0	0
Clay.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Cloud.....	4	5	0	0	0	0	0	0	0	0	0	1	0
Coffey.....	0	0	2	0	1	0	0	0	0	0	0	0	0
Comanche.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Cowley.....	2	0	0	0	0	4	0	0	0	0	0	0	0
Crawford, except.....	7	1	1	13	14	5	0	0	0	0	0	0	0
Pittsburg.....	0	0	0	6	0	0	0	0	0	0	0	0	0
Decatur.....	2	0	1	0	0	0	0	0	0	0	0	1	0
Dickinson.....	2	1	1	1	1	0	0	1	0	0	0	0	0
Doniphan.....	2	0	3	0	13	0	0	0	0	0	0	0	2
Douglas.....	4	1	0	1	6	0	0	0	0	0	0	0	0
Edwards.....	0	0	6	0	0	0	0	0	0	0	0	0	0
Elk.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Ellis.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Ellsworth.....	0	2	1	0	1	0	0	0	0	2	0	0	0
Finney.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Ford.....	0	0	0	0	3	0	0	0	0	0	0	0	1
Franklin.....	4	0	0	1	0	0	0	0	0	0	0	0	0
Geary.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Graham.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray.....	3	0	0	0	0	0	0	0	0	0	0	0	0
Greeley.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood.....	7	1	1	2	0	0	0	0	0	0	0	0	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Harper.....	0	0	0	4	0	0	0	0	0	0	0	1	2
Harvey.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	1	0
Hodgeman.....	0	0	2	0	0	0	0	0	0	1	0	0	0
Jackson.....	6	0	0	1	0	0	0	0	0	0	0	0	0
Jefferson.....	6	0	0	5	0	0	0	0	0	0	0	0	0
Jewell.....	1	4	0	6	0	0	0	0	0	0	0	0	0
Johnson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Kearny.....	0	0	0	1	1	2	0	0	0	1	0	0	0
Kingman.....	0	0	0	0	0	0	0	1	0	0	0	0	1
Kiowa.....	1	1	4	0	6	0	0	0	0	0	0	0	0
Labette, except.....	0	1	1	0	2	1	0	0	0	0	0	0	0
Parsons.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Lane.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Leavenworth, except..	0	1	2	0	0	0	0	0	0	0	0	0	0
Leavenworth city...	0	0	0	0	1	0	0	0	0	0	0	0	4
Lincoln.....	1	0	1	0	13	0	0	0	0	0	0	0	0
Linn.....	0	0	0	1	0	0	0	1	0	0	0	0	0

MORBIDITY STATISTICS—Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough....	Meningitis.....	Pellagra.....	Poliomyelitis.....	Mumps.....	Trachoma.....	Chicken pox.....	Other communicable diseases.....
Logan.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon.....	0	0	0	0	4	0	0	0	0	0	0	0	0
Marion.....	0	5	0	0	0	0	0	0	0	2	0	0	0
Marshall.....	2	2	0	0	0	0	0	0	0	1	0	0	0
McPherson.....	0	0	0	0	0	0	0	0	0	1	0	0	0
Meade.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Miami.....	21	0	0	0	0	0	0	0	0	1	0	0	0
Mitchell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	0	0	0	0	1	0	0	0	0	0	1	0	0
Morris.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Morton.....	0	0	0	1	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	5	0	0	0	0	0	0	0	0
Neosho.....	3	0	2	0	3	12	0	0	0	0	0	0	0
Ness.....	0	0	0	0	0	1	0	0	0	0	0	0	0
Norton.....	0	0	0	0	0	0	0	0	0	0	0	1	0
Osage.....	0	0	1	0	5	0	0	0	0	0	0	0	0
Osborne.....	0	0	0	0	0	1	0	0	0	0	0	0	0
Ottawa*.....													0
Pawnee.....	3	0	0	0	7	0	0	0	0	0	2	0	0
Phillips.....	1	6	0	0	2	0	0	0	0	0	0	0	0
Pottawatomie.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Pratt.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	1	3	0	0	0	0	0	0	0	0
Reno, except Hutchinson.....	5	3	0	0	0	0	0	0	0	0	0	0	0
Republic.....	1	0	1	1	1	0	0	0	0	0	0	2	0
Rice.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Riley.....	2	0	0	0	0	0	0	0	0	3	0	0	0
Rooks*.....													0
Rush.....	0	0	0	0	1	0	0	0	0	3	0	0	0
Russell.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Saline.....	3	0	0	0	4	0	0	0	0	0	0	1	0
Scott.....	0	0	0	0	3	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	0	0	4	0	10	0	0	0	1	0	4	0	2
Seward.....	4	2	1	13	3	18	0	1	0	0	3	2	2
Shawnee, except Topeka.....	0	0	0	0	0	3	0	0	0	0	0	0	0
Sheridan.....	2	5	1	14	7	1	0	0	0	1	1	0	3
Sherman.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Smith.....	1	0	0	0	1	0	0	0	0	0	0	0	0
Stafford.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Stanton*.....													0
Stevens.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sumner.....	2	2	1	0	2	0	0	0	0	1	1	0	4
Thomas.....	0	0	0	0	13	0	0	0	0	0	0	0	0
Trego.....	0	0	0	0	2	0	0	0	0	4	0	0	0
Wabaunsee.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wichita*.....													0
Wilson.....	1	4	0	2	0	2	0	0	0	0	1	0	0
Woodson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wyandotte, except Kansas City.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Kansas City.....	0	4	3	4	13	4	0	0	0	1	0	0	0

* No report.

Other communicable diseases: cancer, 8; malaria, 4; pneumonia, 2; gonorrhea, 11; syphilis, 5; actinomycosis, 1; erysipelas, 1. tetanus 1

Report of the Division of Food and Drugs, Kansas State Board of Health.

FOR THE MONTHS OF JUNE AND JULY, 1915.

LEON A. CONGDON, B. S., Chief of Division.

The following table gives a summary of the inspections and kind of places inspected in 126 towns during the period of this report. Seven hundred twenty-six inspections were made in addition to special milk co-operation inspections with the federal government at Kansas City.

SUMMARY OF INSPECTIONS FOR JUNE AND JULY, 1915.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good	Good to fair.	Fair.	Poor.
Grocery	340	229	31	64	11
Meat market	63	43	7	12	1
Bakery	39	15	9	11	4
Grocery and meat	40	25	5	6	4
Grocery and bakery	2	1		1	
Grocery and beverages	1				1
Grocery and restaurant	1			1	
Meat market, restaurant and fountain	1	1			
Bakery and restaurant	2	1		1	
Bakery and confectionery	1		1		
Confectionery and candy kitchen	13	7	2	3	1
Confectionery and restaurant	1	1			
Confectionery and fountain	1	1			
Restaurant	77	51	4	19	3
Hotel	6	2		2	1
Ice-cream parlor	2	2			
Slaughterhouse	15	13	1	1	
Drug store	55	26	14	12	3
Doctor dispensary	4	3			
Bottling works	3		1	2	
Ice-cream factory	3	2		1	
Milk depot	1	1			
Egg-breaking establishments	7	1			
Flour mill	5	5			
Wholesale grocery	3	3			
Special ice-cream sampling	5				
Special milk investigations	3				
Special work and inspections with federal inspectors on milk. Very large number.					
Nuisance complaints	4				
Auto filling stations; measuring devices	28				
Slaughterhouse wagon-scale inspection	1				
Totals	726	432	80	137	29

Per Cent of Sanitation.

(Exclusive of those not classed.)

63.71 per cent good.
11.79 per cent good to fair.
20.21 per cent fair.
4.29 per cent poor.

Sanitation is the first requirement of school standardization. Your county health officer is required to visit your school and advise you how to make it sanitary. Has he done so?

Altoona has adopted a "fly-proof toilet" ordinance and installed a scavenger system. If your town can't afford a sewerage system, it can follow this example of city cleanliness.

The following table gives the summary of analyses of food and drugs reported to the division for the months of June and July, 1915:

FOOD.				DRUGS.					
KIND OF SAMPLE.	Number	Passed	Misbranded.	Adulterated.	KIND OF SAMPLE.	Number	Standard or passed	Above standard.	Below standard.
Apples (evaporated)	1			1	"Kamethol"	1			1
Apricots (evaporated)	1			1	Lime Water	4	3		1
Peaches (evaporated)	1		1		Nitro glycerine tablets (1-100 gr. as declared)	1	1		
Prunes (evaporated)	1			1	Oil of wintergreen	1	1		
Ciders	6	1	5		Phenol (liquid)	2			2
Ginger ale	3	2	1		Tincture of ginger	1			1
Grape juice	1	1			Wax (yellow)	1			1
Pops	8	1		7					
Temperance beers	16	4	12		Totals	11	5		6
Candy	29	23	6						
Canned Corn	4	3		1					
Cocos	12	12							
Chili powders	13	4	9						
Extract of lemon	1	1							
Extract of cherry	1			1					
Jams and jellies	4	1	1	2					
Cream	1	1							
Ice cream	20	14		6					
Milk	17	17							
Evaporat'd milk product ("Hebe")	1		1						
Orangeade mixture	1			1					
Pickles	3	1		2					
Powdered sugar	1	1							
Sardines in oil	4	1		3					
Strawberries (fruit)	5	2	3						
Vinegar	1			1					
Totals	156	90	39	27					

During the months of June and July our inspectors have examined 545 ales, 906 weights and 224 measures. They have condemned 5 scales, weights and 1 measure.

We have received Food Analyses No. LV from our University Food boratory, Lawrence, Kan. The same is herewith transmitted.

Food Analysis LV.

J. S. BAILEY, Director; W. S. LONG, Analyst in charge; and C. E. ESTES, Analyst.

BEVERAGES.

isp. No. 21322. "Concord Grape Soda. Contains Tartaric Acid." Manufacturer, Bros., Topeka. Remarks: Should not contain added tartaric acid. Illegal.

isp. No. 21348. "Tempo." Passed.

sp. No. 21349. "Puritan." Passed.

sp. No. 21360. "Puritan." Passed.

sp. No. 21364. "Ginger Ale Pop." Passed.

sp. No. 21365. "Ginger Ale." Passed.

sp. No. 21367. "Silver Queen." Manufacturer, Wm. Byers, Kansas City Cider Kansas City, Mo. Retailer, N. Martin, Colby, Kan. Remarks: A hard cider.

sp. No. 21366. "Compound Apple Cider." Passed.

p. No. 60248. "Grape, Artificially colored and Flavored." Manufacturer, Eagle g Co., Kansas City, Mo. Salesman, Chas. Minshall. Remarks: Sweetened with in, and colored with a questionable coal-tar dye. Illegal.

p. No. 60249. "Strawberry, Artificial color and flavor." Manufacturer, Eagle g Co., Kansas City, Mo. Salesman, Chas. Minshall. Remarks: Sweetened with in, and colored with a questionable coal-tar dye. Illegal.

p. No. 60250. "Grape Smack." Passed.

p. No. 60251. "Root Beer, Artificial Color and Flavor." Manufacturer, Eagle Co., Kansas City, Mo. Salesman, Chas. Minshall. Remarks: Sweetened with n, and colored with caramel. Illegal.

- Insp. No. 60252. "Velva Kola." Passed.
- Insp. No. 60253. "Orange, Artificial." Manufacturer, Eagle Bottling Co., Kansas City, Mo. Salesman, Chas. Minshall. Remarks: Sweetened with saccharin. Illegal.
- Insp. No. 60254. "Cream, Artificial." Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, L. B. Hooser, Kansas City, Kan. Remarks: Sweetened with saccharin. Illegal.
- Insp. No. 60255. "Lemon, Artificial." Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, L. B. Hooser, Kansas City, Kan. Remarks: Sweetened with saccharin. Illegal.
- Insp. No. 60256. "Strawberry, Artificial." Manufacturer, Eagle Bottling Co. Kansas City, Mo. Retailer, Mrs. W. McConnell, Kansas City, Kan. Remarks: Sweetened with saccharin. Illegal.
- Insp. No. 70505. "Glidden's Orangeade Mixture" Manufacturer, Glidden Food Co., Rochester, N. Y. Retailer, G. F. Cotter, Mound Valley, Kan. Remarks: A semisolid mixture containing citric acid, sucrose, a coal-tar dye, and water. The product is really an "imitation orangeade" preparation.
- Insp. No. 70566. "Mission, Compound of Apple Juice, Sugar, Tartaric and caramel color, and 1/10 of 1% Benzoate Soda." Manufacturer, The Los Angeles Fruit Products Co. Retailer, C. J. Stuckle, Liberty, Kan. Remarks: Alcohol, 5.65 per cent. Should not contain added tartaric acid. Illegal.
- Insp. No. 70567. "Strawberry, Artificial color and flavor." Manufacturer, Gate City Bottling Works, Coffeyville, Kan. Retailer, Jules Gillet, Coffeyville, Kan. Remarks: Sweetened with saccharin. Illegal.
- Insp. No. 70568. "Cream, Artificial Color and Flavor." Manufacturer, Gate City Bottling Works, Coffeyville, Kan. Retailer, Jules Gillet, Coffeyville, Kan. Remarks: Sweetened with saccharin. Illegal.
- Insp. No. 70569. "Lemon Soda, Artificial Color & Flavor." Manufacturer, Gate City Bottling Works, Coffeyville, Kan. Retailer, Jules Gillet, Coffeyville, Kan. Remarks: Sweetened with saccharin. Illegal.
- Insp. No. 70584. "Tanhauser, A Beverage Perfection, Non-Intoxicating." Remarks: Alcohol, .20 per cent by volume.
- Insp. No. 90681. "Orangeade." Manufacturer and retailer, Joe Alten, Lyons, Kan. Remarks: An imitation orangeade. Illegal.
- Insp. No. 91319. "Grape Tango." Manufacturer, Crown Cider Co., St. Louis. Retailer, Thomas Painter, Hoyt, Kan. Remarks: Alcohol, .26 per cent. Colored with an uncertified red coal-tar dye. Illegal.
- Insp. No. 91385. "Prairie King Sweet Apple Cider." Passed.
- Insp. No. 91441. "Vin-o-la." Manufacturer, Morgan-Abbott, Barker Co., inc., Louisville, Ky. Retailer, R. C. Roff, Delia, Kan. Remarks: Alcohol, 5 per cent. Ordered and sold as "cider." Is a "hard" cider.
- Insp. No. 100053. "Red Cross Cider." Manufacturer, Red Cross Cider Co., St. Louis, Mo. Retailer, E. J. Housel. Alcohol, 6.85 per cent.
- Insp. No. 100054. "Imitation Cider." Alcohol, 2.28 per cent.
- Insp. No. 100060. "Beverage." Alcohol, 10.54 per cent by volume.
- Insp. No. 100072. "Cherry Cider." Alcohol, 1.80 per cent. Colored with a coal-tar dye. An imitation product.
- Insp. No. 100073. "Blackberry Cider." Alcohol, 3.40 per cent. Colored with a coal-tar dye. An imitation product.
- Insp. No. 100074. "White Grape Flavor Cider." Alcohol, 1 per cent. Tartaric acid, none. Has flavor of apple cider.
- Insp. No. 100075. "Pablo Non-intoxicating." Alcohol, 0.20 per cent.
- Insp. No. 100076. "Graino Grain Juice." Passed.
- Insp. No. 100087. "Bull Dog Apple Cider Compound." Manufacturer said to be Red Cross Cider Co., St. Louis, Mo. Retailer, Jas. Jones, jr., Lyons, Kan. Remarks: Alcohol, 5.50 per cent.
- Insp. No. 100089. "Cider." Remarks: "Brought into office by Assistant Attorney-general Montgomery." Alcohol, 6.22 per cent.
- Insp. No. 100090. "Cherry cider." Remarks: "Brought into office by Assistant Attorney-general Montgomery." Alcohol, 6.45 per cent.
- Insp. No. 100091. "Cider." Remarks: "Brought into office by Assistant Attorney-general Montgomery." Alcohol, 4.08 per cent.
- Insp. No. 100095. "Glidden's Orangeade Mixture." Remarks: Sent in by Glidden Food Co., Rochester, N. Y. A granular mixture containing sucrose, tartaric acid and a coal-tar dye. Should not contain tartaric acid, and should be labeled "Imitation."
- Insp. No. 100107. "Viva Tone an Unfermented Beverage." Manufacturer, The Royal Brewing Co., Kansas City and Weston, Mo. Remarks: Sent in by City Clerk F. C. Barber, Cherryvale, Kan. Alcohol, 4.05 per cent. Illegal.
- Insp. No. 100108. "Extra Pale. The Temperance Drink of Quality" Distributors, The U. S. Beverage Co., Kansas City, Mo. Remarks: Sent in by City Clerk F. C. Barber, Cherryvale, Kan. Alcohol, 1.47 per cent. Illegal.
- Insp. No. 100109. "Old Top, Non-intoxicating Temperance Beverage." Bottled especially for U. S. Beverage Co., Kansas City, Mo. Remarks: Sent in by City Clerk F. C. Barber, Cherryvale, Kan. Alcohol, .40 per cent.
- Insp. No. 100113. "Silver Top." Manufacturer, Liquid Food Bottling Co., Kansas City, Mo. Retailer, D. Harmon, Solomon, Kan. Remarks: Sent in by County Attorney Geo. Bischoff. Alcohol, 4.50 per cent.
- Insp. No. 100114. "Silver Top." Manufacturer, Liquid Food Bottling Co., Kansas City, Mo. Retailer, D. Harman, Solomon, Kan. Remarks: Sent in by County Attorney Geo. Bischoff. Alcohol, 4.39 per cent.

Insp. No. 100115. "Silver Top." Manufacturer, Liquid Food Bottling Co., Kansas City, Mo. Retailer, D. Harman, Solomon, Kan. Remarks: Sent in by County Attorney Geo. Bischoff. Alcohol, 4.39 per cent.

Insp. No. 100116. "Silver Top." Manufacturer, Liquid Food Bottling Co., Kansas City, Mo. Retailer, D. Harman, Solomon, Kan. Remarks: Sent in by County Attorney Geo. Bischoff. Alcohol, 4.39 per cent.

COCOA PRODUCTS.

Insp. No. 21370. Cocoa. Passed.

Insp. No. 21372. Ko Ko. Passed.

Insp. No. 21374. Cocoa Powder. Passed.

Insp. No. 21375A. Cocoa Powder. Passed.

Insp. No. 21375B. Cocoa Powder. Passed.

Insp. No. 21376. Cocoa. Passed.

Insp. No. 21377. Label: "Pure Powdered Essence of Chocolate. Prepared by a special process which increases the mineral constituents about $3\frac{1}{2}$ per cent and develops the full strength and flavor of the chocolate when prepared for use." Remarks: A cocoa.

Insp. No. 21881. Cocoa. Passed.

Insp. No. 60218. Cocoa. Passed.

Insp. No. 60246. Cocoa. Passed.

Insp. No. 60247. Cocoa. Passed.

Insp. No. 91222. Cocoa. Remarks: Starch (fat-free basis), 17.23 per cent. Quantity allowable, 16.30 per cent.

Insp. No. 91227. Sweet chocolate. Passed.

Insp. No. 91228. "Bitter chocolate." Jobber, Hilker and Bletsch, Chicago, Ill. Retailer, Geo. P. Way, Ottawa, Kan. Remarks: Adulterated with oxide of iron. Illegal.

Insp. No. 91229. Sweet chocolate. Passed.

Insp. No. 100071. Chocolate. Passed.

CANNED GOODS.

Insp. No. 91225. "Lemon Cling Peaches." Passed.

Insp. No. 91232. "Lemon Cling Peaches." Passed.

Insp. No. 91403. "Peas." Passed.

Insp. No. 100103A. "Van Horne Brand Country Gentleman, Sweet Corn." Remarks: Sent in by Sentney Wholesale Grocery Co., Hutchinson, Kan., with complaint that it "contains too many silks, imitates a Maine-packed style of corn, in a way, by absorbing juice with added corn starch; corn too dry and old." Found to contain a large quantity of silks, no unabsorbed juice, and rather tough kernels.

Insp. No. 100103B. "Van Horne Brand Country Gentleman, Sweet Corn." Remarks: Condition the same as in No. 100103A.

CANDY.

Insp. No. 70561. "Dandy (brand) Candy." Invoiced as strawberry fudge. Manufacturer, Pittsburg Candy Co. Retailer, Loyd Zimmerman Mercantile Co., Sherwin Junction, Kan. Remarks: Colored and flavored in imitation of strawberry.

Insp. No. 91220. "Chocolate Mice." Remarks: Analysis of coating indicates a "sweet cocoa" rather than a "chocolate" coating.

Insp. No. 91221. "Lotus Horse Shoe." Remarks: Coating appears to be a sweetened cocoa.

Insp. No. 91388. "Cream Fudge." Remarks: Salesman claimed he and his wife had pain in stomach on eating the candy." No poison detected. Passed.

Insp. No. 91389. "Cream Candy." Remarks: Complaint of salesman and wife that product "caused pain in stomach." No poison detected. Passed.

DRIED FRUIT.

Insp. No. 21353. "Apricots." Jobber, McCord-Kistler, Topeka. Retailer, Joe Stramel, Topeka. Remarks: Sulphites as sulphur dioxide present to the extent of 964 milligrams per kilogram of fruit. Illegal.

Insp. No. 70558. "F. F. O. G. Fancy Peaches." Packed for Ridenour-Baker Grocery Co., Kansas City, Mo. Retailer, J. S. Lontzenhiser, Chetopa, Kan. Remarks: Bleached with sulphur dioxide, a fact not stated on label. Illegal.

Insp. No. 70586. "Harvest Home Evaporated Peaches." Jobber, Jett & Wood, Wichita, Kan. Retailer, C. H. Miller, Norwich, Kan. Remarks: Bleached with sulphur dioxide, a fact not stated. Sulphites as sulphur dioxide 998 mgs. per kilo. Illegal.

Insp. No. 70587. "Richelieu Evaporated Peaches." Jobber, Sprague-Warner Company, Chicago. Retailer, J. W. Withers & Son, Fort Scott, Kan. Remarks: Bleached with sulphur dioxide, a fact not stated. Sulphites as SO_2 , 914 mgs. per kilo. Illegal.

Insp. No. 90781. "Oriole Brand Evaporated Pears." Jobber, Reid, Murdock & Co., Topeka. Retailer, W. A. Greswald, Kansas City, Kan. Remarks: Sulphites as SO_2 , 701 mgs. per kilo. Illegal.

Insp. No. 91442. "Prunes." Manufacturer, The Davis Mercantile Co., Topeka. Retailer, Guy Kiene, Valencia, Kan. Remarks: Mites present in large numbers. Unfit for consumption. Illegal.

Insp. No. 100110. "Harvest Home Brand Evaporated Peaches." Remarks: Sent in by Jett & Wood, Wichita, Kan. Remarks: Bleached with sulphur dioxide, a fact not stated on label. Illegal.

EXTRACTS AND FLAVORS.

Insp. No. 21253. "Flavoring Extract of Vanilla and Tonka Beans." Manufacturer, Van Natta Drug Co., St. Joseph, Mo. Retailer, Coulter's Pharmacy, Blue Rapids, Kan. Remarks: Misbranded; contains added vanillin and coumarin. Illegal.

Insp. No. 21255. "Nevin's Grape Nectar. Distinctly delicious fountain syrup. Certified colors and 1/10 of 1% Benzoate Soda." Manufacturer, Grape Nectar Co., Blue Rapids, Kan. Remarks: Analysis indicates an imitation grape product.

Insp. No. 21259. "Strawberry Flavor imitation; made from Strawberry juice and amyls." Manufacturer, Evans-Smith Drug Co., Kansas City, Mo. Retailer, Dingman's Drug Store, Hanover, Kan. Remarks: Artificially colored with cochineal. Illegal.

Insp. No. 21309. "Extract Vanilla and Tonka." Passed.

Insp. No. 21347. "Lemon Extract." Passed.

Insp. No. 21333. "Raspberry Extract." Passed.

Insp. No. 60177. "Vanilla Extract." Passed.

Insp. No. 60178. "Lemon Extract." Passed.

Insp. No. 60216. "Vanilla, Coumarin & Vanillin." "Baker Special" brand. Manufacturer, Geo. R. Ryan, Rochester, N. Y. Retailer, Griswold & Son, Kansas City, Kan. Remarks: Analysis does not show the presence of "vanilla."

Insp. No. 60228. "Vanilla Extract." Passed.

Insp. No. 60229. "Flavoring Extract Vanilla." Passed.

Insp. No. 91238. "Zieve's Fruit Nectar Compound, Wild cherry flavor, Composed of pure fruit juices, fruit oils, and vegetable ingredients and colored with a pure vegetable fruit color." Remarks: Flavored with oil of bitter almonds and colored with cutbear.

Insp. No. 91241. "Flavoring Extract Vanilla." Passed.

Insp. No. 91275. "Flavoring Extract Vanilla." Passed.

Insp. No. 91276. "Extract of True Vanilla." Passed.

Insp. No. 91280. "Flavoring Extract of Vanilla." Passed.

Insp. No. 91303. "Extract of Vanilla." Passed.

Insp. No. 91304. "Flavoring Extract Vanilla." Passed.

Insp. No. 100070. "Grapine Syrup." Remarks: Sent in by Larned Bottling Works, Larned, Kan. Not a true grape syrup and flavor.

Insp. No. 100086. "Vanilla, Coumarin and Vanillin Compound." Sent in by Ryan Manufacturing Co., Rochester, N. Y. Colored with caramel. Resins absent. No vanilla present. Illegal.

Insp. No. 100098. "Flavoring Extract of Vanilla and Tonka Beans." Manufacturer, Van Natta Drug Co., St. Joseph, Mo. Remarks: Sent in by manufacturer. Resins, none; vanilla, none; added vanillin. Illegal.

Insp. No. 100099. "Flavoring Extract of Vanilla and Tonka Beans." Manufacturer, Van Natta Drug Co., St. Joseph, Mo. Remarks: Sent in by manufacturer. Resins, trace; little or no vanilla present. Illegal.

FRUIT BUTTERS AND JAMS.

Insp. No. 70556K. "Corn Syrup Apple Butter Compound." Remarks: Sent in with some other samples of old stock and "swell" canned goods for tin and gas analysis. Milligram of tin per kilogram of butter, 66.9.

Insp. No. 91057. "Apple Butter." Passed.

Insp. No. 91234. "Fruit Butter." Passed.

Insp. No. 91230. "Peach Butter." Passed.

Insp. No. 91273. "Cherry Jam." Passed.

Insp. No. 91274. "Strawberry Jam." Passed.

PICKLES.

Insp. No. 60221. "Sweet Pickles." Retailer, White & Son, Salina, Kan. Remarks: Salts of aluminum present. Illegal.

Insp. No. 60222. "Sour Pickles." Retailer, White & Son, Salina, Kan. Remarks: Salts of aluminum present. Illegal.

Insp. No. 60223. "Sour Pickles." Retailer, J. Gales, Salina. Remarks: Salts of aluminum present. Illegal.

Insp. No. 60224. "Sour Pickles." Passed.

Insp. No. 60225. "Sour Pickles." Retailer, Nismith & Son, Salina, Kan. Remarks: Salts of aluminum present. Illegal.

Insp. No. 60226. "Sour Pickles." Manufacturer, Squire Dengee, Chicago. Retailer, T. S. Taylor, Salina. Remarks: Salts of aluminum present. Illegal.

Insp. No. 60227. "Sweet Pickles." Passed.

Insp. No. 91244. "Crescent Brand Sweet Pickles." Glaser-Crandall Co., Chicago. Jobber, Sentney Wholesale Co., Hutchinson, Kan. Remarks: Salts of aluminum present. Illegal.

Insp. No. 91246. "Crescent Brand Spiced Pickles." Glaser-Crandall Co., Chicago. Jobber, Sentney Wholesale Co., Hutchinson, Kan. Remarks: Salts of aluminum present. Illegal.

Insp. No. 91284. "Sweet Pickles." Kurer Pickle Co., Denver, Colo. Retailer, Guyman Petro Mercantile Co., Hutchinson, Kan. Remarks: Salts of aluminum present. Illegal.

Insp. No. 91286. "Sweet Pickles." Kurer Pickle Co., Denver, Colo. Retailer, Guyman-Petro Mercantile Co., Hutchinson. Remarks: Salts of aluminum present. Illegal.

Insp. No. 91288. "Dill Pickles." Kurer Pickle Co., Denver, Colo. Retailer, Guyman-Petro Mercantile Co., Hutchinson. Remarks: Salts of aluminum present. Illegal.

- sp. No. 91308. "Sour Pickles." Passed.
- sp. No. 91310. "Household Brand Sweet Plain Pickles." Kurer Pickle Co., r, Colo. Retailer, The Central Mercantile Co., Hutchinson. Remarks: Salts of alum present. Illegal.
- sp. No. 91345. "Fox River Sour Gherkins. No Benzoate of soda or alum used." & McGuire, Green Bay, Wis. Retailer, Vinland Coöp., Vinland, Kan. Jobber, Wholesale Grocery Co., Ottawa, Kan. Remarks: Salts of aluminum present.
- sp. No. 91386. "Sour Pickles." Passed.
- sp. No. 91428. "Madison Brand Sweet Spiced Pickles." Alart & McGuire. Retailer, Bowman, Somerset, Kan. Remarks: Salts of aluminum present. Illegal.
- sp. No. 91425. "Pickwick Brand Sour Gherkins." Alart & McGuire Co., Green Wis. Retailer, M. Wilson, Stilwell, Kan. Remarks: Salts of aluminum present.
- p. No. 9126. "Pickwick Brand Sour Pickles." Alart & McGuire Co. Jobber, City Wholesale Grocery Co. Retailer, E. R. Gibson, Stilwell, Kan. Remarks: f aluminum present. Illegal.
- p. No. 91427. "Pickwick Brand Sour Gherkins." Alart & McGuire Co. Jobber, City Wholesale Grocery Co. Retailer, E. R. Gibson, Stilwell, Kan. Remarks: f aluminum present. Illegal.
- p. No. 91431. "Jamestown Brand Pickles." Knadler & Lucas, Incorporated, lle, Ky. Jobber, Theo. Pochler Mercantile Co., Lawrence, Kan. Retailer, G. W. Meriden, Kan. Remarks: Salts of aluminum present. Illegal.
- p. No. 91444. "Hiawatha Brand Sweet Spiced Pickles." Retailer, G. A. Frost, Kan. Remarks: Salts of aluminum present. Illegal.

RICE.

- p. No. 70548. "Rice." Passed.
- p. No. 91056. "Rice." Passed.
- p. No. 91384. "Always Good Brand Rice." The Lehman, Higginson Grocery Co., Kan. Retailer, B. French, Maize, Kan. Remarks: Misbranded as to net weight.
- p. No. 100055. "Rice." Passed.
- p. No. 100056. "Rice." Passed.
- p. No. 100057. "Rice." Passed.
- p. No. 100058. "Rice Breakfast Food." Passed.

SALAD OILS.

- p. No. 21022. "Salad Oil." Manufacturer, Faxon Gallagher Drug Co., Kansas o. Retailer, Hampton's Pharmacy, Kansas City, Kan. Remarks: Adulterated tonseed oil. Illegal.
- p. No. 21237. "Commercial (brand) Sweet Oil." Manufacturer, Van Natta Drug Joseph, Mo. Retailer, Sherwood Drug Co., Sabetha, Kan. Remarks: The al contents are those for a pure cottonseed oil. Illegal.
- p. No. 21246. "Olive Oil." Passed.
- p. No. 21252. "Olive Oil." Passed.
- p. No. 21265. "Sweet Oil." Passed.
- p. No. 21307. "Olive Oil Compound." Passed.
- p. No. 80527. "Olive Oil." Passed.
- p. No. 80536. "Olive Oil." Passed.

VINEGAR.

- p. No. 70588. "Vinegar." Bourbon Co. Coöp. Store, Fort Scott, Kan. Remarks: andard in acidity, total solids and soluble phosphates. Illegal.
- p. No. 91402. "Cider Vinegar." Retailer, W. F. Link, Michigan Valley, Kan. : Not a cider vinegar and below standard in acidity. Illegal.
- p. No. 91429. "Pure Cider Vinegar." H. K. Godding, Osawatomie, Kan. Re- rank Vohs, Osawatomie, Kan. Remarks: Below standard; apple cider not ly fermented. Illegal.

MISCELLANEOUS.

- No. 60187. Asparagus. Passed.
- No. 60188. Asparagus. Passed.
- No. 70355. Powdered Sugar. Passed.
- No. 91443. Powdered Sugar. Passed.
- No. 60179. Oil Sardines. Passed.
- No. 100111B. Smoked Sardines, Fancy Quality. Remarks: Brought in by IcCord, Kistler Mercantile Co.; on request of department. Milligram of tin per of sample, 1985. Illegal.
- No. 21329A. Tartaric Acid. Passed.
- No. 21350. Indigo Bluing, Double Strength. Davis Mercantile Co., Topeka. : Contains Prussian blue.
- No. ——. "Melowa." B. Heller & Co., Chicago. Retailer, Jno. Fulcher, Par- n. Remarks: Used for ripening and stiffening new cream. The product is a f gum tragacanth and has no ripening property. Illegal.
- No. 91387. Pecans. Passed.
- No. 91220. Hominy. Passed.
- No. 100052. Flour. Passed.
- tu of Chemistry I. S. No. 29165K. "Pinella." Passed.

Water Supplies for Rural Schools.

By F. R. HESSER, Assistant Engineer, State Board of Health.

During a recent parade of school children in Topeka this spring a well-known business man remarked to a friend: "How much better they look than we used to at their age. In a bunch of school children forty years ago the majority always had sore eyes, cold sores, a running nose, or something of that sort."

You products of the "little red schoolhouse" can see that there has been an improvement in the general health of school children, and it has been accomplished by the application of some very simple rules of sanitation plus common sense.

The city schools have been the first to benefit, however, because of the sewers, the public water supply, the heating and ventilating facilities possible in large city school buildings. In the rural schools we still frequently find the windows closed tight all day long during cool weather; a grimy-looking tin cup, which is used in turn by all pupils and dropped again into the open bucket; a dirty tin wash pan; the old-fashioned "slippery elm" roller towel, and the repulsive, ill-lighted outside privy.

Country children work and play hard, get lots of pure, fresh air, and so can overcome the effects of poor ventilation of the schoolroom to a certain extent, but they can not escape the water that is supplied them.

Cisterns are frequently used as supplies for rural schools, being connected by down spouts to the eavetroughs. This practice should be discontinued wherever possible, for the result is almost always foul water. Even if a by-pass is placed in the downspout so that the cistern may be cut out, it is rarely used. Bird droppings litter the schoolhouse roof, and dust from the near-by road is blown into the gutter. These are all washed into the cistern by the first rain.

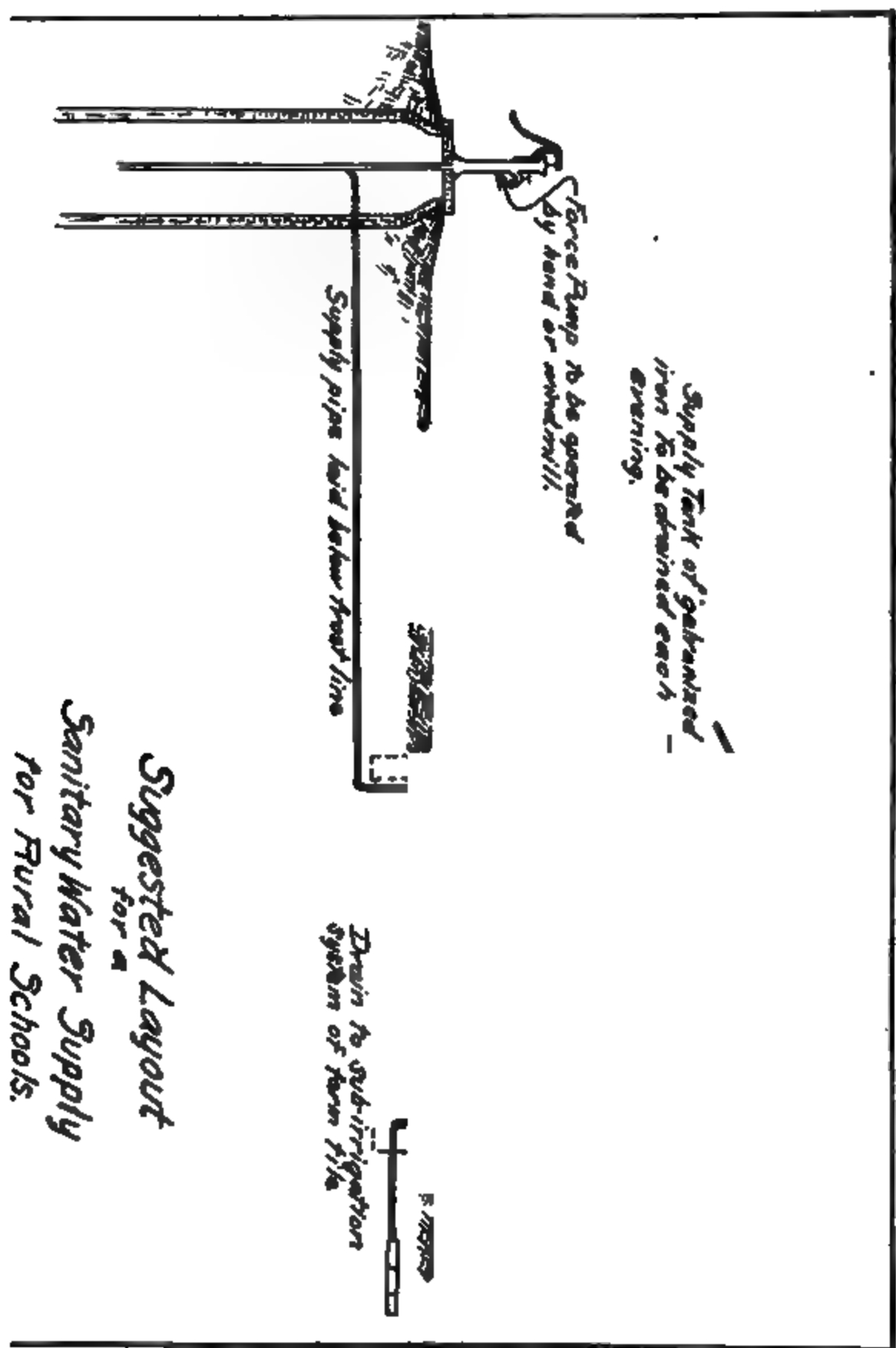
The ordinary charcoal or brick filter used with cisterns are breeding places for bacteria after they have been in use for a very short time. and unless they are cleaned after each rain they often do more harm than good.

A drilled or driven well is probably the safest source of a drinking-water supply for this purpose, since the solid metal casing prevents the entrance of water seeping downward from the surface. The walls of a dug well may be made practically seep-proof by laying them up in mortar and pointing up all joints and crevices thoroughly.

Any type of well or cistern should be protected by a concrete curb around the top, extending at least eight inches above the surrounding ground surface. A concrete slab four inches to six inches thick and not less than four feet square should be laid around the curb and sloped away from the center.

A tight iron pump should be fastened to bolts previously imbedded in the concrete slab. The chain-and-bucket pump is only objectionable from the fact that the top is often off, giving access to dirt. and when built of wood the base rots away quickly and insects and small animals crawl through and fall into the water.

The writer advocates the use of a force pump connected with a 50-gallon to 100-gallon cylindrical galvanized-iron tank. The tank should be



placed inside the schoolhouse—in a cloakroom, for instance—and elevated eight feet or more above the floor. A sanitary drinking fountain can then be installed at little cost, and the common drinking cup banished. Lavatories can also be installed, with paper towels on which the youngsters can dry their hands.

The waste water from these fixtures can be discharged through a sewer pipe at a distance of 100 feet from the house without causing an unsightly mudhole. A still more complete development of this idea would include the installation of a 1000-gallon elevated tank, a small windmill and pump and water-flushed toilets discharging into a small septic tank. In this tank bacterial action would liquify and break down most of the solid matter. The residue would then pass out through a gridiron of farm drain tile to subirrigate a plot of ground large enough for a nice model garden or flower plot for the school.

Public Health Surveys.

Published by the Department of Surveys and Exhibits, Russell Sage Foundation,
and in print June, 1915.

I.—*A Public Health Survey of Topeka*, by Franz Schneider, jr., New York City, May, 1914.

This report is a thoroughgoing survey of public health in Topeka, giving detailed analyses of the city's vital statistics, the results of special inspections of the city's sanitary conditions, and a critical examination of the city health department. It reports an intensive investigation of the sewer system—an investigation considerably fuller than that reported in *Public Health in Springfield*. The report is 98 pages in length and is illustrated with 13 maps, 4 charts and 28 photographs. It is not indexed.

II.—*Public Health in Springfield, Ill.*, by Franz Schneider, jr., New York City, May, 1915.

This report also is based on a thorough survey of public health; in general, the most complete yet made by the Department of Surveys and Exhibits. The discussions of vital statistics and communicable diseases are fuller than those contained in the Topeka report. This report also contains a comprehensive survey of the tuberculosis situation by Dixon Van Blarcom, of the National Association for the Study and Prevention of Tuberculosis, and some interesting material relating to the venereal diseases. The report is 159 pages in length, is indexed, and is illustrated with 14 maps, 38 charts and 27 photographs.

III.—*A Survey of the Public Health Situation, Ithaca, N. Y.*, by Franz Schneider, jr., Ithaca, June, 1915.

This report is typical of what may be done in the way of a comparatively rapid survey of the public-health situation in a small or moderate-sized city. The report contains, however, the results of an original investigation of the number of wells and privies in Ithaca, and considerable other material unusual in a survey of this type—material which was obtainable through the presence of Cornell University. The report is — pages in length and is illustrated with 3 maps and 6 photographs.

Eye Strain in Children after the Measles, Scarlet Fever and Allied Diseases.

Our excellent boards of health in many cities in the Union have very wisely directed that children suffering from the diseases above mentioned should be segregated from the rest of their companions in school for a considerable length of time during the continuation of their affection, as well as afterwards, for fear of infection or possible contagion. This is eminently proper, and should be persisted in carefully, and a rigid quarantine effected and properly maintained during the disease and so long afterward as is deemed necessary.

There is, however, an additional reason why, after an apparent cure of the local or constitutional disease, the children so affected should be granted a considerable vacation, and that is the eye strain which almost invariably accompanies these diseases, and continues with the sufferer for some time after apparent bodily recovery. If we permit children so affected to enter school at once, at the time when the physicians permit them to return as free from contagion, there is great probability that bad results will follow, so far as the eyes are concerned. For they are at this time weakened for use at near objects, and the sudden exertion demanded from them, as, for instance, in writing in a book and then looking at a distant blackboard for notes, or in looking at a book and then at an example on the blackboard, exerts the accommodation of the eyes to an unusual degree and leads to eye strain from which recovery may not take place for months. Instances of this sort have also been recently observed after the mumps, in which the eyes could not be used for near work for seven weeks, the least exertion being followed with a flow of tears, smarting and burning of the eyes.

Instances of this sort of eye strain, occurring daily in the practice of oculists, prove how intimately the eyes are connected with the body and the folly of regarding them as mere things by themselves, the sight of which needs only to be tested by inexperienced men. People have to be taught by constant repetition that the eyes are a part of the body, and are constantly exhibiting symptoms, such as have above been mentioned, to prove their close relationship.

Sore Eyes Caused by Face Powder.

Face powder has its dangers the same as gunpowder. For several years occasional cases have come under the observation of oculists in which the patients, invariably women, complain of vision being blurred, inability to use the eyes for any length of time, and severe itching of the lids. The slightest rubbing of the lids produces a marked redness of the eyes and only aggravates the itching. In severe cases the lids are frequently swollen from constant rubbing. There is a sticky, elastic secretion which, when being removed, pulls out in long strings. Microscopic examination of the secretion reveals masses of what appear to be crystals.

Until recently no satisfactory explanation of the presence of these crystals in the eye has been given. Secretion taken from the eyes of two sisters suffering from this peculiar complaint were submitted to the professor of pathology of one of the university medical schools, who found that the crystals came from rice face powder. Seven other patients in which the same symptoms and microscopic conditions were found all used the same make of face powder. When the powder is applied to the face with a puff, a portion of the fine dust is driven upward and lodges on the moist eyeball. The rice powder in the presence of the tears then becomes mucilaginous in character and is not washed from under the eyelids. The powder produces the irritation, which is aggravated by rubbing. Those who use a chamois skin in applying the powder are less liable to cause the fine dust to arise, which probably accounts for the condition not being found in every woman using face powder. The condition is quickly relieved by flushing the eye with boric acid solution. The irritation rapidly disappears when the eyes are kept washed out with a soothing eyewash.

Spots Before the Eyes.

The prevalence of this condition has given rise to a great many curious ideas. Almost every one either sees fixed or floating spots at times, or hears some friend complain of these conditions, so that it is not strange that many popular misconceptions have arisen. The commonest form of floating spots are those which are known by the name of *muscae volitantes*, an old name which indicates how long the condition has been observed. These are tiny transparent chains, or strings, which are seen especially on a white or brightly illuminated field. They persistently float in the line of vision, and though a shake of the head may carry them out of the way, they at once float back again. These spots are probably caused by the remains in the fluid part of the eye of certain cells which should have been completely absorbed in the development of the eye. They never lead to impairment of vision, and, as before stated, are perfectly transparent. Other floating spots are due to cobweb-like masses of inflammatory material which are thrown out into the fluid of the eye by some low-grade inflammation. These spots usually obscure the vision, which is their great point of difference from the former ones. It is, of course, very important to find out in any case whether the spots are due to inflammation, or not, and this can only be done by a skilled observer. It is a prevalent idea that the wearing of a dotted veil may leave permanent spots in the field of vision. While the dotted veil may be a source of strain by causing the wearer to pull on the eye muscles in order to avoid the obstruction to vision, it certainly is not the case that the dots, or any other object seen, can be permanently photographed on the nerve tissues of the eye. There is only one exception to this statement. Many people who have carelessly looked too much at the sun, generally in observing the eclipse, have actually produced a slight inflammatory change in the retina, so that there is always a blurry spot wherever they look. But it is doubtful if any light less brilliant than the sun can produce a permanent spot, and certainly a dark object can not do so.

The "Day of Rest" and Human Efficiency.

The refreshing influence of the weekly "day of rest" on a person subjected to the strenuous routine of a busy life is a feature which he himself can duly appreciate in the effects on his "feelings" and "spirits." The efficiency of the workingman, the length of the working day, the interjection of pauses for rest in the schedule of labor for persons of different ages and stations in life—questions of this sort are constantly arising for solution on a scientific basis. Not only in the field of manual labor, but also in the case of the school child, the office boy, the factory girl, the banker and the merchant, efficiency is the keynote of the times. Fatigue is the enemy of efficiency; and to detect and compensate for or overcome it is the duty of those concerned with the promotion of human welfare.

In view of this, says *The Journal of the American Medical Association*, it is of more than passing interest to know that Dr. Martin and some of his associates in the laboratory of physiology at the Harvard Medical School have been making a careful study of the whole question of fatigue and efficiency from a physiological standpoint. A long series of experiments have been made on first-year medical students who were following a regular routine of school work during six days of each week. The routine was interrupted weekly by the Sunday recess, an interval occupied variously by the students, but in no case in precisely the manner of the week days. The daily observations made on these persons during several weeks show that at the beginning of the week the nerve reaction tends to be high, that from then until the end of the week there is a fairly continuous decline, and that following the interruption of the routine by the intervention of Sunday, it returns to the original high point.

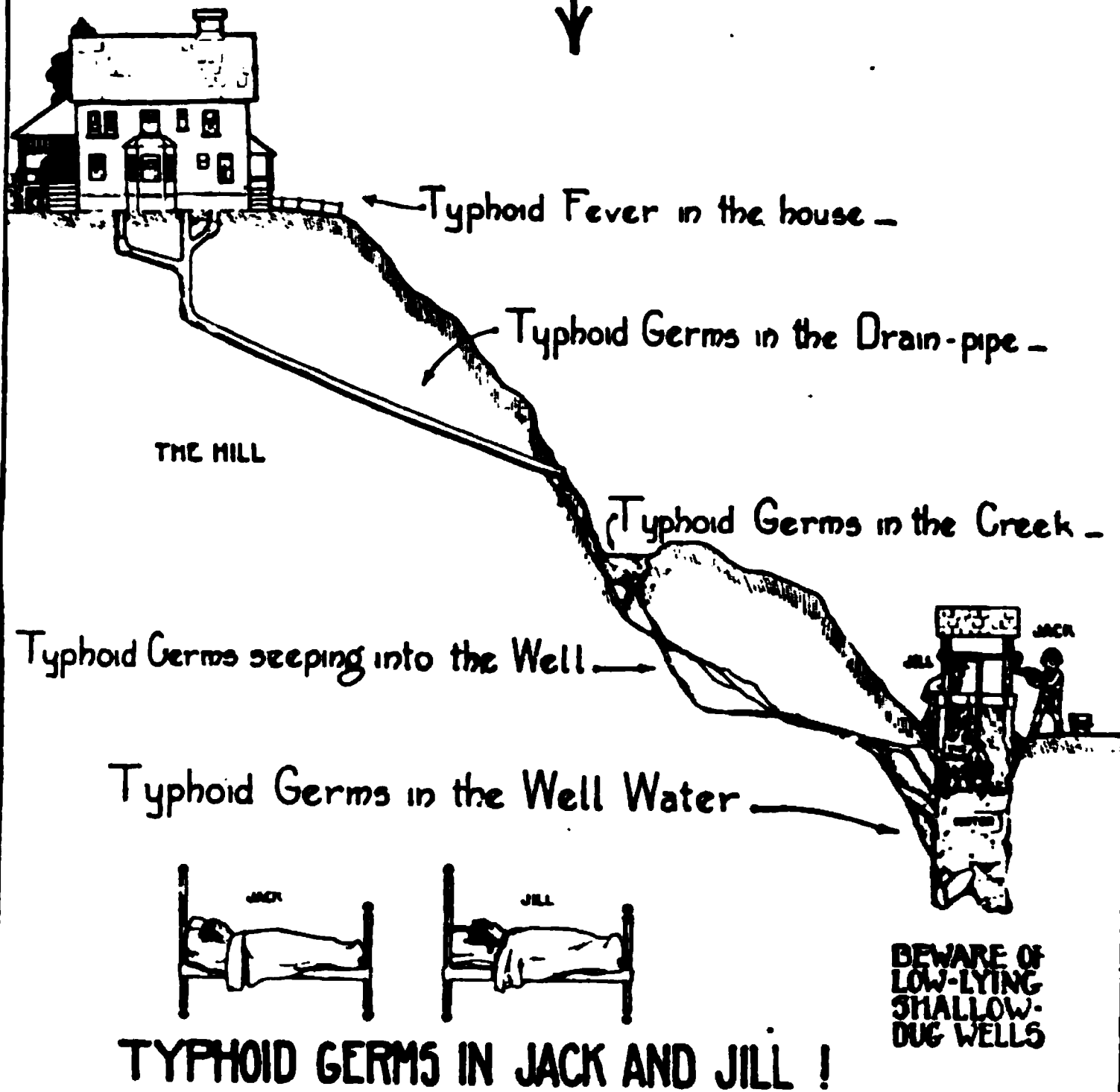
The decline is interpreted as a cumulative result of general fatigue incident to routine. What is even more significant, however, is the added fact that a pronounced break in the routine—such as the "day of rest" occasions—may bring about a return of sensitiveness to a high point, or, in other words, it restores the nervous tone. Studies continued in this direction should lead to some useful conclusions regarding the maximum of work, with respect to both its duration and type, that should determine the conditions under which the organism of man may be maintained without depletion.

JACK AND JILL.

JACK AND JILL
WENT DOWN THE HILL
TO GET A DRINK OF WATER

JACK FELL SICK
OF TYPHOID, QUICK.
AND JILL CAME FOLLOWING AFTER !

- AND THIS IS THE REASON WHY



BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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SEPTEMBER, 1915.

VOL. XI.

CONTENTS.

Morbidity Reports for August, 1915, page 258.

An Account in the Bank of Health, page 260.

Dry-picked vs. Scalded Chickens, page 266.

Dirty Hands and Sickness, page 267.

The Migration of Flies, page 268.

Free Distribution of Antitoxin and Vaccines to the Indigent Poor of the State, page 269.

Legal Liability of Water Company, page 270.

Ka-choo-oo! Cut your ragweeds.

Have you recovered from your vacation?

"Where there is no vision the people perish."

He profits most who serves best.—*Rotary*.

Soap, water, towel—clean skin, healthy body.

**'Trouble knocked at the door, but hearing a laugh within,
cried away.'**

**When a large number of adults have "chicken pox," hang out
smallpox sign.**

**The widespread prejudice against glucose is unwarranted;
perfectly wholesome.**

**Typhobacterins are now stocked at our distributing stations
for the use of the indigent poor of the state.**

**Public health is the foundation upon which rests the happiness
of the people and the welfare of the state.—*Disraeli*.**

**Pythagoras gave two hours a day to the care of his body, and
so did all his contemporaries.**

MORBIDITY REPORTS FOR AUGUST, 1915.

Number of cases reported from each country

Other communicable diseases	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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AN ACCOUNT IN THE BANK OF HEALTH.

Balance Income and Expenditure of Energy and Keep a Reserve Fund of Vigor.

By J. B. HARRINGTON.

If the average man were to pay as much attention to his health as he does to his bank account, success in life would be his to a certainty.

But the average man takes his health as a matter of course—except when he loses it—and then he regards the loss as a visitation of Providence. The bank account he understands, because he knows exactly how it is created and maintained; but health is something he regards as being rather outside of his province and therefore beyond his comprehension.

The subject would be clear enough to him if he would only think of health, as he does of the bank account, in terms of capital, income and possible bankruptcy.

It is true in the most literal sense that health actually is wealth. The overwhelming majority of earth's inhabitants know no other form of wealth. As a rule, the wage earner's daily vital force is his sole source of income; his sole capital is his reserve of health.

HEALTH IS THE WORKER'S CAPITAL.

The analogy between health and capital is so close that we can not get away from it. The reserve force which constitutes sound health is the capital of physical existence. Without this a man is absolutely dependent from hour to hour on the temporary force derived from the food he takes or the stimulant without which he would utterly collapse.

A sudden overstrain or an attack of disease would bankrupt him, so far as physical force is concerned, just as surely as a sudden panic or an unexpected pressure of creditors would bankrupt a business man whose reserve funds were insufficient to meet emergencies.

EACH DAY'S ENORMOUS INCOME.

In the same way, the heat and energy gained each day from food we eat and the air we breathe is physical income—some so enormous that when it is reduced to figures it is almost beyond comprehension.

Scientists estimate that the average amount of food consumed by the average man at average work generates in the body about 3400 foot tons of force every day. As a foot ton is a force sufficient to lift a ton one foot off the ground, this comparison gives some idea of the amount of heat and energy required to keep the body going.

Fortunately, we have only to reckon consciously with a small portion of this supply. Nine-tenths of this force or energy is used automatically for the warming of the body and for the maintenance of life. Its business is to make good the wear and tear of the physical system and to manufacture the various complicated products necessary for its existence, as, for example, the daily allowance of a gallon of gastric juice and a pint of saliva, which each adult human being needs to digest food and which must be produced by the body.

This leaves about 300 foot tons of force for our conscious use in work, in moving about, in thoughts and emotions—which burn up a great deal—in other words, in the business of living life. No engine that was ever made by man can be compared to the human body as a generator and user of energy.

THIS INCOME MUST BE RIGHTLY USED.

The daily intake of force from the food we eat and the air we breathe is literally the body's income. We can either live beyond it, live fully up to it, or live below it. Furthermore, we can make the income larger or smaller, as we will, and so we can have a greater or less amount on hand as a reserve.

But this income absolutely demands intelligent expenditure. If we live beyond it, so that we have to draw upon our reserve force of health for daily needs, we are making inroads upon our capital, which means that we have climbed aboard the loggia and are headed for physical bankruptcy.

And it is almost as dangerous to live below our income, for the body can use just so much capital in the form of reserve force. If more is forced upon it, the results are disease,

plethora and inertia, all of which are as bad in their way as the weakness brought on by starvation or overwork.

The sane man who understands his body as well as he does his bank account never exceeds his income of energy, but he lives fully up to it every day. If extra demands are made upon him, he increases the income. If a lull comes, so that his expenditure is less, he lessens the intake. His own sense of well-being and sound bodily condition enables him to maintain the balance, which means full vigor and the maximum of efficiency.

HOW THE DAILY INCOME IS REGULATED.

The regulation of the daily income depends almost wholly upon the quality and quantity of food eaten every day, and the regularity of meals.

Here is where knowledge of food values is just as necessary to maintain bodily solvency and efficiency as knowledge of finance is to maintain a good reserve fund at the bank.

So much has been said and written during the past few years on the subject of food and food values that nearly every one now understands that the energy value of foods is measured by calories or units of heat. Experts calculate these units by burning the foods to be tested in a machine called a calorimeter. Their energy value is determined by the amount of heat they produce.

THE BUILDING MATERIAL NEEDED.

It has been calculated by recent experimenters that any diet which contains from 56 to 60 grams of protein will provide all the nitrogen the body needs to keep its tissue in good repair, unless hard muscular work or other heavy exertion be undertaken. Other authorities place the minimum of protein at 125 grams. But neither amount will suffice to provide all the heat and energy that the body must generate in order to do its work.

Fifty-six grams of protein, if burned, has been estimated as having an energy value of 230 calories, but the body of a man doing moderate work, either physical or mental, must produce daily about 3000 calories of energy. If he is doing hard work he may be obliged to generate as much as 9000 calories per day. Fats and carbohydrates must be added to the diet in order to provide the necessary calories.

The question then is, What mixture of proteins, fats and carbohydrates will give the maximum of bodily heat and energy, and so give the best results from the fuel used each day?

WHY A MIXED DIET IS BEST.

Protein to the extent of at least sixty grams a day must be taken by an active man. Fat is a very concentrated fuel. It has twice the fuel value of the same weight of protein or carbohydrates, but is not readily burned in the body. An excess of it would accumulate in the tissues, producing obesity and ill health. Carbohydrates, starches and sugars have less fuel value than fats, but are more agreeable to take in quantity, and are much more digestible. If taken in excess, however, these foods also tend to produce too much fat in the tissues. The only really efficient diet is the mixed diet which contains all the necessary food elements.

Many of the physical troubles of man arise from the completeness of his control over the foods he eats and the equal completeness of his lack of knowledge regarding these foods. The misuse of food—and when we say food we mean drink also—is the greatest cause of the disease and misery that afflicts the human race. Therefore, the knowledge of what constitutes proper food is chief among the laws of health.

REGULATE DIET BY AGE AND WEIGHT.

As to the quantity of food that should be taken, the best and simplest rule adapts the amount of nourishment needed to the age, the occupation and the constitution.

From the age of twenty-one to twenty-five it is safe to eat as much good, wholesome food of all kinds as can be relished and digested, provided this food is taken at regular intervals.

From twenty-five to fifty-five the weight should govern the amount of food taken. The body should remain at approximately the same weight during all these thirty years. If it increases to any marked degree, too much food is being consumed.

From fifty-five to seventy-five the food should be simpler in character and the amount gradually decreased. The healthy man being rarely eats too much in the first third of life, but then shortens life by eating too much in later years.

The safest rule with regard to eating, as to everything else, moderation in all things. If we eat too much or too rapidly,

indigestion follows. If we persistently eat overrich or unsuitable food, and omit to burn it up by taking the proper amount of exercise, dyspepsia is the penalty.

If we go to either extreme we are misusing our daily income of energy. Starvation or freak diets lower it so that a man or woman doing ordinary work, or a child occupied in growing, is living dangerously beyond the requisite income. If more is eaten than can be utilized in the day's work or sport, the income is not being used as it should, and both health and efficiency are definitely lowered.

When it comes to deciding what to eat, it is well to have a general knowledge of food values and of the constituents of our ordinary foods. Armed with such knowledge, the best guides are the steady maintenance of weight and the sense of well-being that attends good physical condition.

We can get the sixty grams of protein needed every day in a half pound of lean meat, in nine eggs, in a half pound of ordinary cheese, in one pound of uncooked macaroni, in one and one-third pounds of white wheat bread, in a half pound of dried peas, in ten pounds of bananas, in thirty-three pounds of apples, or in one pound of nuts. Or if, during the day, we eat half a pound of meat, half a pound of potatoes and half a pound of bread and butter, we will get the needed amount of protein and enough fat and carbohydrates to make up the required 3000 calories of fuel energy.

But who wants to get the requisite amount of nourishment in this way? If, by some strange perversion or insensibility of taste, one was willing to stoke up with foods in such proportions as we have mentioned, it would do very little good. The chemical composition of foods must be considered. Bananas are undeniably nutritious, but if a man tried to live on bananas alone he would have to eat an overwhelming excess of carbohydrates in order to get enough protein. If he tried to live on lean meat alone, he would have to eat about five pounds of meat a day. In other words, accommodating and adaptable as the human digestive system has proved itself to be, its state under such treatment would argue anything but a wise use of the daily income. Digestibility must be considered. For instance, nuts form the most nutritious food that one can possibly eat. A pound of almonds contains enough protein for tissue and enough carbohydrates and fat for the supply of energy, and

fuel value of over 3000 calories. A pound of rice has a value of only 1630 calories; yet rice is really the more nutritious food of the two, because the nutritive material of rice, being mixed with indigestible cellulose, is only slowly absorbed. The body has to expend a tremendous amount of energy in digesting nuts, especially if they are eaten in large quantity.

Therefore, the protein of cereals and meat is of more value to the human organism than the protein of nuts and legumes. All proteins, whether animal or vegetable, are absorbed more easily when they are eaten with carbohydrates than when they are taken by themselves.

Experiments made by Professor Pawlow show that the protein of bread requires five times more pepsin than the protein of milk. As pepsin is the digestive ferment of the stomach, the body must be manufactured to take care of the food, the body must put forth five times as much energy to digest bread as it does to digest milk. The same condition obtains in the intestine, for there the disposal of bread protein demands more gastric ferment than meat protein, and meat protein in its disposal demands more than milk protein.

THE ENERGY USED IN ASSIMILATION.

Accordingly, the energy obtained by the body from the protein of meat is gained much more cheaply than the energy obtained by the protein of bread. The energy obtained from the protein of milk is gained more cheaply still.

In estimating the value of any food, the ease with which it is digested is one of the most important things to be taken into consideration.

Experiments of all sorts have been made with predigested foods, compressed foods and the like, but the normal digestion is best for them all. A certain bulk of food is needed to keep the stomach and intestines in order, and unless the juices and ferments required for digestion are called forth in the normal way, the amount secreted will be lowered beyond the point of health.

For this reason, a normal diet and a varied diet, taken in moderation, is by far the best. The outdoor man or the man engaged in hard muscular work craves a considerable quantity of food because he needs it; the sedentary man needs much less

to maintain equilibrium between the fuel he takes in and energy his body generates.

Animal protein is readily assimilated and produces more energy and alertness than vegetable protein. Meat has a stimulating effect upon the brain and nerve centers, and a diet in which meat bears an important part makes for restlessness, initiative and enterprise. The vegetarian races are usually quiet and contemplative, little given to progress and much inclined to take things as they are. A mixed diet, as widely varied as possible, is the safest means of keeping the daily income equal to the outgo.

If we will keep in mind the fact that health is physical capital; that reserve force corresponds to the reserve fund which means safety in emergencies; that the income of energy must balance the outgo, and that the only source from which we derive this income is food, the experience of each man, added to such knowledge as he can derive from even cursory study of the subject, will aid him greatly in determining what is best for himself.

When such practical experience is aided by a fairly comprehensive knowledge of food values and intelligence in the selection and combination of foods, it amounts to a guarantee against physical bankruptcy and an increase of efficiency that will prove in everyday life the absolute truth of the wise old saying:

"Health is wealth."—*The Forecast*.

Dry-picked vs. Scalded Chickens.

The skin of a chicken will tell the housewife whether the bird has been properly "dry" picked and "air-chilled," or whether it has been "scalded" in order to remove the feathers. The skin of a dry-picked chicken is flexible, translucent, with the feather papillæ plainly visible, and short hairs which have to be removed by singeing. If a chicken has been scalded the skin is hard, thick, close to the muscles underneath, and almost free from these hairs. The skin of a dry-picked chicken which has been chilled in water has lost the powdery look which is characteristic, and is shiny, thicker than when air-chilled, and it is scarcely possible to see the pink muscles under-

as one should be able to do. A water-chilled chicken is fraud to the buyer, because it absorbs water, which is sold for at chicken prices.

Housewives should insist on a dry-picked chicken, because scalding of a chicken, and especially scalding, lessens or destroys the delicate flavor of the meat.

Dirty Hands and Sickness.

One of the first steps which indicates the rise of the standard of living is the practice of keeping hands clean. Recent investigation shows that typhoid is very likely to be transmitted by dirty hands. It should be remembered that a good many well people are what is known as typhoid carriers; that is, the typhoid bacilli live with them and appear in their excretions, although these bacilli no longer make them sick.

Even if such a person gets his hands covered with the typhoid bacilli and then handles milk, or works in a grocery store or restaurant handling food, every person who uses that milk or food is likely to receive infection.

The recent experiments made in the English army show that the way to get the hands perfectly clean. This is the experiment:

1. Dipped the tip of the right index finger in the urine of typhoid carrier (proved to contain upwards of 8,000,000,000 per cc.). (a) Rinsed in lysol solution (approximately 2 per cent). (b) Then held the finger under the tap, rinsing first in cold, then in very hot water (temperature recorded). (c) Washed very carefully in about 0.5 cc. of sterile water in a watch glass, and plated the whole of the water used for this purpose. Result: Three hundred and thirteen colonies of typhoid bacilli on plate. (d) After the washing in sterile water mentioned under (c) the tip of the finger was thoroughly soaked in absolute alcohol, allowed to dry, and the washing in sterile water repeated. The "washings" were again "plated." Result: Four colonies of typhoid bacilli.

Another experiment was as follows:

1. Contaminated the tip of left second finger with urine from carrier A. Allowed the finger to dry. (b) Washed very thoroughly with soap water under a running tap. Dried thoroughly with a cloth. (c) "Washed" thoroughly with 0.5 cc. of sterile water in a watch glass and plated the "washings." Result: No typhoid bacilli isolated. (c) Finally dipped the finger in lysol solution (2 per cent), scrubbed, dried with a

cloth, "washed" as before and plated the "washings." Result: No typhoid bacilli.

The first experiment shows that it may be very difficult to free a finger from contamination by typhoid bacilli. The second attempt was successful, possibly owing to the fact that the fingers were thoroughly dried with a cloth, the mechanical friction apparently helping to remove the bacteria. Even if this were the case, it only means that the cloth became infected, and the danger of contaminated fingers remains obvious.

Secretary Richardson of the Massachusetts State Board says: "If a single drop of urine can contain 3,000,000,000 typhoid bacilli, what can we think about a waiter's thumb which gets into our soup and the none-too-clean fingers of the farmer who milks the cows?"

The practical suggestion from this information is, first, every one should, as far as possible, wash his hands with scrupulous care after any possible contamination with feces or urine, and, secondly, that no one should think of handling food either for his own use, or for others, without carefully washing his hands.—*Healthy Home*.

The Migration of Flies.

A number of investigations have been made as to the migration of house flies, which seem to prove that under certain favorable conditions house flies will travel several miles from their breeding place. It is a matter of common observation, also, that flies may be transported long distances through the medium of railway trains, dining cars, etc.

Recently, Mr. George B. Harrison, president of the Association of American Balloon Pilots, informed the writer that flies had been encountered in strong air currents at high altitudes. He declared that on a recent trip, from southern Texas traveling north, they encountered an air current at about 5000 feet altitude, going at the rate of about sixty miles an hour, and that a considerable number of house flies came into the basket of the balloon, being swept along in this tornado-like current.

This observation leads to the inevitable conclusion that flies may migrate very great distances, and that in this manner infected flies may be the means of transmitting certain infectious diseases over a wide range of country.

Distribution of Antitoxin and Vaccines to the Indigent Poor of the State.

distributing stations handling diphtheritic antitoxin for State Board of Health have recently, through arrangement with the H. M. Alexander Company, been supplied with bacterins for distribution to the indigent poor of the state on the same terms that diphtheritic antitoxin has hitherto been distributed.

In addition to this arrangement, one or more distributing stations, including the county seat of each county, will handle smallpox vaccine virus, which will also be distributed to the indigent poor of the state.

In addition to the above, at least one distributing station in each county will be supplied with tetanus antitoxin, not to be distributed by the State Board of Health, but to be sold at a greatly reduced price as will enable individuals, or the county or city, to furnish this biological product to all who may be so unfortunate as to require its use.

By agreement with the H. M. Alexander Company further provided that any or all of these biological products may be ordered direct to physicians or others at State Board of Health prices, which prices have been so greatly reduced from the former retail prices of these products as will make a saving of thousands of dollars annually to the people of this State in the purchase of the same.

The following schedule of prices is herewith given at which these products will be sold:

Diphtheritic Antitoxin.

One 1,000-unit package	\$0.50
One 3,000-unit package	1.30
One 5,000-unit package	1.90
One 10,000-unit package	3.10

Typhobacterins.

One ampul package	\$0.40
One complete immunizing .....	.80
One package (10 immunizing)	1.85

Smallpox Vaccine.

One package (10 vaccinations)	\$0.65
-------------------------------------	--------

Tetanus Antitoxin.

One 1,500-unit package	\$1.50
One 3,000-unit package	2.75
One 5,000-unit package	4.00

Legal Liability of Water Company.

**DAMAGES RECOVERABLE WHEN WATER SUPPLIED IS DANGEROUSLY
CONTAMINATED.**

The supreme court of the state of New Jersey has decided that a water company supplying water for domestic purposes is bound to exercise reasonable care to see that the water is wholesome and safe.

In Jones vs. Mount Holly Water Co. (see page 2669 of this issue of the Public Health Reports) the plaintiff was a customer of the water company . Three of his children became ill, and he sued the company for damages, alleging that the illness was caused by contamination of the water with fecal matter. He secured a verdict for \$750 in the lower court, and the supreme court sustained the verdict.

The court held that the evidence was sufficient to justify the jury in finding that the illness of the children resulted from the contamination of the water and that the company had been guilty of negligence in supplying water which was unsafe for drinking purposes.

Judge Kalisch, in the opinion, said:

It must be borne in mind that the defendant company was in the water-supply business for profit. The plaintiff had paid for the supply which he was to receive, in advance. Hence it became the duty of the defendant company to give to the plaintiff water fit for domestic purposes, including fitness for drinking. Water is a necessity of life, and one who undertakes to trade in it and supply customers stands in no different position to those with whom he deals than does a dealer in foodstuffs. He is bound to use reasonable care that whatever is supplied for food or drink shall be ordinarily and reasonably pure and wholesome.

.

Actual notice or knowledge of the unwholesomeness of the water was not an essential element to be proven in order to establish the defendant's liability. It was sufficient if there was testimony tending to show that the defendant, in the exercise of reasonable care, might have discovered the unwholesomeness and dangerous condition of the water.

—U. S. P. H. Reports.

There are several municipalities and one or two private water companies in this state that are taking chances of having suits for damage filed against them because the water they serve to the public is not above the suspicion of the possibility of such disease-conveying disease. It would be more economical, and infinitely more humane, to improve the water supply than to incur court costs and fines; besides, one's conscience would be at ease.

The three most important rooms in the house—kitchen, bath, sleeping-porch; to which should be added a fourth—an agency room.

Sunshine is delicious, rain is refreshing, wind braces up, and snow is exhilarating; there is really no such thing as bad weather—only different kinds of good weather.—*Ruskin*.

The work of a man is to fight against the difficulties which his own proper activities have stirred up, and to conquer them.—*W. G. S. Burgess*.

YOU CAN'T FLOAT A BALLOON WITHOUT GAS

BULLETIN

OF THE

Kansas State Board of Health.

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S. J. CRUMBINE, M. D., Editor.

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VOL. XI.

CONTENTS.

Morbidity Reports for September, 1915, page 274.

Operation of an Experimental Plant for Deodorization of Wastes from
Standard Oil Refinery at Neodesha, Kan., page 276.

Kansas School of Public Health Education, page 291.

The Periodical Examination of Ice, page 293.

Kansas is a "Healthy Country," page 295.

Report of the Division of Food and Drugs, State Board of Health,
page 296.

Rural Sanitation, page 299.

The Tonic Effect of Sympathy with Others, page 301.

Philosophy, page 302.

Box Files, page 303.

The Doctor, page 304.

Public health is a public trust.

Well, look who 's here—Indian Summer.

The Public Health Nurse is here to stay.

If you have rheumatism, have your tonsils examined.

A stitch of prevention may save a nine dollar doctor bill.

The hibernating season is not yet here. Keep in the open.

As the windows go down, the sickness and death rate goes up.

Industrial and venereal diseases are required to be reported.

My people are being destroyed for lack of knowledge.—
see IV:6.

The way to keep healthy is to live right; right living is
righteous living.

The Wilson County "Sanitation Day" was a "hum-dinger."
Let's have more of 'em!

MORBIDITY REPORTS FOR SEPTEMBER, 1915.

Number of cases reported from each county.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough....	Meningitis.....	Pellagra.....	Polomyelitis.....	Mumps.....	Trachoma.....	Chicken pox.....	Other communicable diseases.....
THE STATE...	229	98	74	58	48	164	3	4	2	22	5	26	48
Allen.....	1	6	6	1	1	12	0	1	0	0	0	0	0
Anderson.....	0	0	0	4	0	0	0	0	0	0	0	0	1
Atchison, except Atchison city.....	0 3	0 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Barber.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Barton.....	5	5	2	0	0	0	0	1	0	0	0	0	1
Bourbon, except Fort Scott.....	3 2	0 0	0 0	0 0	3 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Brown.....	1	0	0	0	0	1	0	0	0	0	0	0	0
Butler.....	4	0	2	0	0	0	0	0	0	0	0	0	0
Chase.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Chautauqua.....	4	1	1	0	0	0	0	0	0	0	0	0	2
Cherokee.....	3	9	0	1	0	0	0	0	0	0	0	2	0
Cheyenne.....	0	0	0	0	5	0	0	0	0	0	0	0	0
Clark.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Clay.....	1	0	0	0	1	0	0	0	0	4	0	0	0
Cloud.....	4	2	0	0	0	0	0	0	0	0	0	0	0
Coffey.....	2	0	1	0	0	1	0	0	0	0	0	0	0
Comanche.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Cowley.....	6	1	8	0	0	8	1	0	0	1	0	0	0
Crawford, except Pittsburg.....	7 0	16 5	0 1	1 0	2 0	3 0	1 0	0 0	0 0	1 0	0 0	0 0	2 0
Decatur.....	2	0	0	0	0	0	0	0	0	1	0	0	0
Dickinson.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Doniphan.....	2	0	9	0	0	0	1	0	0	0	0	0	2
Douglas.....	3	0	1	0	1	6	0	0	0	0	0	0	0
Edwards.....	1	0	1	0	0	0	0	0	0	0	0	0	0
Elk.....	1	1	0	1	0	6	0	0	0	0	0	0	0
Ellis.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Ellsworth.....	2	8	0	0	0	2	0	0	0	0	0	0	0
Finney.....	3	0	0	0	0	0	0	0	0	0	0	0	0
Ford.....	11	1	2	0	0	1	0	0	0	0	0	0	1
Franklin.....	4	2	0	0	0	0	0	0	0	0	0	0	1
Gary.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Gove.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Graham.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray.....	0	3	0	0	0	0	0	0	0	0	0	0	0
Greeley.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood.....	3	0	3	0	0	0	0	0	0	0	0	0	0
Hamilton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Harper.....	5	0	1	0	0	0	0	0	0	0	0	0	0
Harvey.....	4	0	0	0	0	1	0	0	0	0	0	0	1
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackson.....	0	1	0	0	0	10	1	0	0	1	0	1	0
Jefferson.....	0	5	4	0	0	0	0	0	0	0	0	0	0
Jewell.....	0	0	0	0	0	12	0	0	0	4	0	0	0
Johnson.....	2	2	0	0	0	0	0	0	0	0	0	0	0
Kearny.....	2	0	0	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Kiowa.....	1	0	0	0	0	0	0	0	0	1	0	0	0
Labette, except Parsons.....	2 4	1 3	0 2	1 2	0 0	0 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Lane.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Leavenworth, except Leavenworth city....	3 1	1 7	1 0	0 0	0 0	3 0	0 0	0 0	1 0	0 0	0 0	0 0	0 0
Lincoln.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Linn.....	1	1	1	0	0	0	0	0	1	0	0	0	0

Operation of an Experimental Plant for Deodorization of Wastes from Standard Oil Refinery at Neodesha, Kan.

By FRED R. HESSEB, Assistant Engineer State Board of Health.

CONDITIONS LEADING TO CONSTRUCTION OF PLANT.

Early in the winter of 1914-'15 the State Board of Health was advised that objectionable odors and tastes were being noticed in the water drawn from the Verdigris river at Cherryvale and Independence. Representations were made to this department by parties connected with the waterworks of those cities that the above-mentioned odors and tastes were caused by the sewage from the Standard Oil Company (Kansas) refinery at Neodesha.

Somewhat similar conditions had existed at Humboldt, Kan., during the preceding year, and a quite thorough investigation by the writer had convinced him that the agitator wastes, from which no recovery is made at that place, had contaminated the groundwater when allowed to seep into the earth 220 feet from the city well, by producing in it a characteristic musty or woody odor and taste.

A number of investigations were made by representatives of this department during January and February, 1915, at Cherryvale and Independence, and reports of these trips each state that the river water has a musty or vegetable odor. The similarity between this odor and that at Humboldt was at once apparent to the writer. Examination of the waste water from the agitators at Neodesha showed it to possess the same odor greatly intensified, and seemed to prove the reasonableness of the contention that a part, at least, of the trouble was due to this cause.

A rather unusual condition had prevailed over the whole state during the summer and fall of 1914. The rainfall during the early spring had been plentiful, and vegetation bordering the streams had sprung up in profusion. Lack of rain during the last half of the year had reduced the flow in many streams, including the Fall river and Verdigris river, to a very low stage, and it was sometimes necessary to plow channels between pools to obtain sufficient water for commercial and municipal demands. Dead vegetation and leaves lying in these pools would undoubtedly create a noticeable odor in the water, and the fact that a number of cities using surface supplies, outside the oil belt, noticed odors and tastes in their water at about the same time would indicate the existence of some natural cause for the same. These odors and tastes would, of course, be intensified by the accumulation in the pools of quantities of oil or agitator waste. This combination of conditions undoubtedly aggravated a condition which under ordinary circumstances might not cause offense. The absence of offense during periods of normal flow in the streams would seem to indicate that sufficient aëration and dilution of the refinery wastes has rendered them inoffensive prior to this particular time.

The Standard Oil Company indicated its willingness to take any reasonable steps looking toward the prevention of such conditions in the

ture. This seems absolutely necessary, since the filtration plants at Merryvale, Independence and Coffeyville were unable, by special treatment, to render the water fit for use over a period of about six weeks.

EXPERIMENTAL BASIS FOR DESIGN OF PLANT.

Coagulation with alum and subsequent filtration being the method regularly employed at the three plants affected, and having failed to remove the offense, this idea was not given further consideration, except at Independence Mr. Bruckmiller of the water and sewage laboratory experimented with the use of lime and alum as coagulants, with subsequent filtration, but found the results unsatisfactory.

Accordingly, upon renewed complaint from the city of Independence, samples of the refinery waste at Neodesha were collected and sent to the water and sewage laboratory of the State Board of Health, in the hope that some method of treatment might be devised to remove the odor and taste. Mr. Young, director of the water and sewage laboratory of this division, makes the following statement with regard to experimental work on these samples:

"Various experiments were carried on with chemical reagents, with the idea that some cheap chemical might be found that would destroy the compounds in the waste. It was observed that the refinery waste contained a small amount of oil in emulsion and very small amounts of soluble, aromatic organic compounds. By destroying the emulsion a portion of the odor was removed, but the penetrating, offensive odor still remained, probably due to naphthalenic or sulphonic acids. Dilution experiments were made, and it was found that a person with a sensitive nose could detect one part of the gasoline waste in 256,000 parts of water. An individual with an ordinary sense of smell could detect the waste in dilutions of one to 16,000.

As was stated before, the compounds were present in the waste as an emulsion and in solution. A preliminary experiment showed that oxidizing agents would change the character of the odor and destroy a portion of it, so that no odor could be detected in dilutions of 1 to 1000, and if the reaction were carried on long enough the compounds present could be entirely destroyed. Bearing these facts in mind, we attempted to use the well-known absorptive power of coke to destroy the emulsion and remove the odor. Laboratory experiments showed that by trickling the waste over coke breeze the soluble compounds were largely oxidized and emulsified hydrocarbons were deposited upon the coke. The odor of the effluent was reduced considerably for a time, but in a short while the coke lost the power of breaking down the emulsion or removing the odor, as it became coated with a film of oil. The process was stopped and the coke treated with live steam, with the result that it was regenerated, and the process could be repeated with no appreciable diminution of the volume of effluent.

Various other experiments were tried. First, the refinery waste was heated to about 80° C. and trickled over the coke at different rates, with very satisfactory results. Again, the waste was heated to boiling by steam, and, when it reached the boiling point, air was blown through the liquid. The effluent from this treatment, when passed over regenerated coke, was entirely free from odor, but it was thought that this method would not be a practical one if used on a large scale. Coagulation and sedimentation were tried, but the waste was run upon the coke with but little improvement over the results obtained by plain contact with

CONSTRUCTION OF EXPERIMENTAL PLANT.

The plant used in these experiments was erected by the Standard Oil Company from a plan prepared by the writer. This plan included an aerating coke tower only, and contemplated the pumping of raw sewage from some point in the outfall sewer, as shown by the attached blue print. It was found convenient to locate the plant adjacent to the agitators and to avoid pumping. Chemical dosing devices and a settling basin were later added, but the original plan was followed with the above-noted exceptions.

The function of the agitators may be briefly described as follows: They are covered steel cylinders having cone-shaped bottoms. No. 1 is about 18 feet in diameter, Nos. 2 and 3 having a diameter of about 30 feet. Refined oil, naphtha, gasoline, etc., are placed in the agitators and a "doctor" of litharge and lye water applied and mixed by blowing. Sulphur is sometimes added also, and the mixing continued one-half hour. Some free water, together with the doctor, settles to the bottom of the cone and is drawn off to be recovered and used again. 66° Be. sulphuric acid is next added in the amount of about 3 pounds per barrel of oil, agitated about 20 minutes and allowed to stand 15 minutes. A second dump of 3 or 4 pounds of acid per barrel is then added and again agitated. The agitator then stands idle for 1½ hours, the acid sludge being drawn off meanwhile. Cold water is then applied through a sprinkler system near the top of the agitator for 1½ hours, shut down, and the water drawn off. This water has absorbed most of the acid which remained in the oil after drawing off the sludge. The strongest of the acid water is drawn off to a "weak acid" tank for recovery. The writer found that the waste showed an acid reaction usually for 15 to 20 minutes after the discharge was diverted from the "weak acid" tank to the sewer.

During the first 20 minutes of the second wash the temperature of the

wash water is raised from 60° F. to 85° F. and continued for 1½ hours. This is drawn off to the sewer, and in the case of kerosene a third wash applied. The temperature of the water is raised from 85° to 110° in 20 minutes, and continued until temperature of the oil reaches 100° F. This water also is drawn off to the sewer. The writer noted at various times that from acidity amounting to 365 p. p. m. (CaCO_3) in one case, the wash water rapidly became neutral and then alkaline, approaching the alkalinity of the raw river water which was used in washing. The combined wash water was always alkaline.

DETAILS OF PLANT.

The coke tower, 10 feet in height and 5 feet in diameter, was made of two sheets of $\frac{3}{8}$ -inch steel, lapped and riveted along the horizontal and vertical seams. A flat circular bottom of the same material was placed in the cylinder and tapped at the center to receive a 1-inch bushing. The cylinder was then erected vertically upon timber supports so that its base was about 6 inches above the ground. A 1-inch steam line, tapped into the steam main between agitators No. 1 and No. 2, was connected to the bottom bushed tap by a tee and nipple, and a valve placed in the open or down end of the tee to serve as a drain or clean-out valve. Valves were placed in the steam line at the main and just outside the cylinder. The main valve was closed at night during cold weather, to prevent excessive condensation and ultimate freezing in the 1-inch line. Steam was provided to regenerate the coke after having become impregnated with odorous, oily compounds.

A layer of concrete 3 inches thick at the outside and sloping to 1 inch thick at the center was then placed on the cylinder bottom and a $\frac{1}{2}$ -inch effluent line tapped into the north side of the cylinder just above this concrete floor. A hand-operated valve just outside the cylinder controlled the flow of effluent through this pipe, which extended about 8 feet and dropped through an elbow and 6 inches of nipple into the sewer catch basin serving agitator No. 3. Brick were then placed on edge and staggered to form a gridiron collecting system and support for the coke.

Hard coke was then placed in the tower to a depth of about 9 feet above the bottom, with no attempt made to grade it by size. The pieces ranged in size from 1 or 2 cu. in. to 50 cu. in., with at least 80 per cent between 10 cu. in. and 30 cu. in. It later became apparent that a small section on the southwest side of the tower had been packed too hard, for when steam was passed through the tower the whole exterior became evenly heated with the exception of a section about 2 feet wide extending from the top to about 5 feet above the bottom.

RATE REGULATOR.

This consisted essentially of a 2 ft. by 2 ft. box, 1 foot deep, having pivoted on one side an adjustable orifice plate and on the opposite side an overflow outlet 6 inches above the orifice center. The box was substantially constructed of 2-inch lumber with water-tight joints. In the front face an opening centered 3 inches above the bottom was beveled from 4 inches diameter on outside to 2 inches diameter inside the box. The orifice plate is of steel, 10 inches in diameter and $\frac{1}{4}$ -inch thick. This pivoted on a $\frac{1}{2}$ -inch bolt 6 inches above the bottom of the box, and six

orifices of varying sizes are centered at equal intervals 3 inches from the center of the plate, so that their centers coincide with that of the opening in the box.

The diameters of the six orifices are as follows: $\frac{1}{4}$ inch, $\frac{1}{2}$ inch, $\frac{3}{4}$ inch, 1 inch, $1\frac{1}{4}$ inches and $1\frac{1}{2}$ inches. By loosening a nut on the outside of the pivot, the plate may be revolved and the required orifice placed in position to discharge. Following are the calculated rates of discharge for the above-mentioned orifices under a constant head of 6 inches, which is maintained by means of hand-controlled influent pipes, and the $1\frac{1}{2}$ -inch overflow opposite the orifice end of the box:

Diam. of orifice.	Discharge. Gal. per min.	Rate per acre. Mil. gal. per day.
$\frac{1}{4}$ inch	0.57	1.82
$\frac{1}{2}$ inch	2.19	7.0
$\frac{3}{4}$ inch	4.905	15.70
1 inch	8.8	28.0
$1\frac{1}{4}$ inches	13.6	43.6
$1\frac{1}{2}$ inches	19.6	62.7

The orifice box, for plain aëration, is supported upon two 2-inch planks laid across the top of the tower. One of these planks, crossing the middle of the tower, is perforated by a 4-inch hole directly over the center of the tower, and supports the distributing system.

DISTRIBUTING SYSTEM.

The distributing system consists of a section of 6-inch steel pipe, 10 inches long, plugged at the lower end and having eight $\frac{3}{4}$ -inch taps spaced equidistantly around the circumference and about 1 inch above the bottom. Into these taps are screwed eight $\frac{3}{4}$ -inch pipes, 26 inches long, capped at the outer end and perforated with six $\frac{1}{16}$ -inch holes along

upper side. This sprinkler is wired directly under the hole in the tank previously mentioned, so that the discharge from the orifice box is into the 6-inch pipe and is discharged into the air above the coke surface.

WASTE WATER SUPPLY.

The sludge, weak-acid and wash-water discharge lines are taken off from the apex of the cone bottoms of the agitators, and in case of No. 3 the wash-water line runs horizontally through the east side of the supporting wall, through a hand-operated gate valve, and through an elbow and drop into the sewer catch basin about 3 feet north of the wall. A 2-inch pipe is connected to a riser from the upper side of the wash-water line just back of the gate valve and turned down into the orifice box about 2 inches below the overflow hole. Partial closing of the gate valve furnishes sufficient head to deliver any desired quantity to the orifice box.

The waste varies from strongly acid at beginning of wash to an alkalinity approaching that of raw water at the end of wash. The odor also decreases during the progress of washing. To obtain a uniform waste for treatment, agitator No. 1 was connected to No. 3 and used as an equalizing basin, proportional quantities from various washes being mixed and stored there. A 1½-inch supply pipe, connected as in the case of No. 3, conveyed this waste to the orifice box.

CHEMICAL DOING:

In order to experiment with coagulation by various means, followed by sedimentation and aëration, a sedimentation basin was erected on March

This was a tank built of ¼-inch steel, 8 feet in diameter and 5 feet deep, with a flat bottom and slightly domed top. The top contained four openings—a central manhole about 16 inches in diameter and three

smaller holes near the outer edge. This was erected on wooden bents between the coke tower and the sewer catch basin.

A 1½-inch effluent pipe was inserted in the side adjacent to the coke tower and about 7 inches below the top of sedimentation basin, just clearing the top of the coke tower and delivering settled water to the distributor. A 1½-inch drain to the sewer was inserted in the tank bottom above the catch basin. A baffle wall 5½ feet long was placed in the side of the basin opposite the coke tower, cutting off a segment of the basin and extending from the top to 20 inches above the bottom.

The orifice box was reversed and discharged into a mixing trough made of white pine. This was an open trough 3 inches wide, 3 inches deep by 5 feet long. Ends were inserted in the trough, the upper one notched to permit entrance of the stream of water and a space of 1 inch being left between the bottom and lower end for discharge downward through one of the small holes above mentioned back of the baffle wall. Diagonal cleats were nailed in the bottom of the mixing trough and two rows of nails spaced ¼ inch apart were placed across it near the lower end. Excellent mixing of the chemical solution was obtained.

Two 16-gallon kegs fitted with ⅜-inch spigots were used for mixing solutions of lime, iron sulphate or alum. Orifice boxes for regulating doses were made of tin cans 5 inches square by 7 inches deep; ⅛-inch orifices were punched near the bottom of the cans with overflow holes 6 inches above the orifices. Variation of dose was obtained by varying the strength of solution applied through the constant orifices, which discharged about 3 gallons per hour.

OPERATION AND RESULTS.

A small amount of chemical apparatus was taken along with the reagents for making the standard tests for acidity or alkalinity. Some attempt was made to make dilution tests for odor in the field, but because of the various intense odors about the refinery, this was not very successful. Pint samples, therefore, were taken and expressed to the laboratory each day. Results were recorded in terms of the dilution in which the characteristic odor could be detected. Lack of space prevents the presentation of the results of these experiments. They are summarized, however, in the following:

The following conclusions were made a part of the writer's report on these experiments: The data at hand are not of sufficient number or definite enough in character to permit the drawing of definite conclusions as to the most economical and satisfactory method of treatment to recommend. It seems evident, however, that storage in an equalizing chamber will avoid the discharge of the intensely odorous first wash by diluting it with the less odorous water following it. This is accomplished to a certain extent by passing the wash water through the skimming tank.¹

The use of a separate tank capable of holding a maximum day's wash water is advisable, however. The total wash water, amounting to a maximum of 300,000 to 400,000 gallons, is now discharged during a period of about eight hours, and the action of the skimmer is, doubtless,

1. A device used at the refinery for recovering oil from the waste water.

ss effective because of this flushing. The gradual discharge of this water from an equalizing basin would probably make its effect upon the river water less noticeable also. Plain sedimentation in agitator No. 1 seems to have reduced the odor in the raw waste, an advantage which could be gained in an equalizing basin.

Plain aëration at rates of 28,000,000 gallons per acre per day appears to effect a reduction of 75 per cent of odor under most circumstances. Coagulation and aëration, using lime and iron, seems capable of reducing the odor to a point where dilutions of 1 to 64 or 1 to 256 will mask it.

The total elimination of odor is a needless requirement, but it is necessary to reduce it to such a point that the minimum mean flow in the Verdigris river will furnish sufficient dilution to mask it. The Verdigris was above normal flow stage during the progress of these experiments, and no attempts were made to gauge it. Water Supply Paper No. 273 of the United States Geological Survey states that the minimum mean flow over a period extending from January 1, 1896, to November 30, 1903, amounted to 412 second feet. This would give a dilution of about 1 to 30 for a maximum waste discharge of 500,000 gallons per day. Although minimum discharges as low as 2 second feet are noted in the above-mentioned record, the monthly mean is always so much larger that these minima probably rarely if ever exist for more than one or two days.

The hard coke used in the tower was found to be disintegrated near the bottom to a considerable extent when removed, probably due to the effect of steam and rapid changes of temperature. It is, therefore, thought desirable to experiment upon the effect of crushed rock as an aërating medium, both with and without coagulation.

Further experiments should also be made to determine the economical length of run before steaming the aëerator.

Sufficient data regarding the use of oil coke are not at hand to compare with those obtained by the use of hard coke.

In view of the above-mentioned conditions, I believe that a successful method of deodorizing the refinery waste can be perfected, but recommend that further experiments be made along the lines mentioned above.

The data collected and tabulated in the earlier report showed that several methods were capable of reducing the odor of fresh agitator wash water to such an extent that it would be unnoticed in dilutions as small as that afforded by extremely low stages of the Verdigris river.

The most successful of these methods, however, required the use of lime and iron as coagulants, and it was thought desirable to investigate the possibility of developing some other method by which the use of chemicals could be avoided.

The writer had suggested the possibility of using heat to remove odor from the agitator water at the time of his first visit to the Standard Oil Company's refinery, but was told that some experiments along this line had not proved successful. After a few days' experimentation with plain aëration during my last test, however, it was decided to make some experiments in the aëration of the heated agitator water, and the results of these experiments were equally good as those obtained by coagulation, sedimentation and aëration.

A detailed description of new equipment methods, and tabulated results, follow:

NEW EQUIPMENT. The coke tower, settling basin, chemical dosing kegs, etc., all remained from the previous run and are described fully in my first report.

CRUSHED-ROCK AERATOR. In addition to this, there had been erected a smaller steel cylinder about 9 feet high by 1 foot in diameter, which was filled with crushed granite between 1 and 2 inches in greatest dimension. A steam line 1 inch in diameter was connected a few inches above the bottom, and an effluent line led from the bottom of the tank to the sewer catch basin. The raw-waste delivery pipe was provided with a tee and

valves, so that the raw water might be discharged directly into the top of this tower. It was not so arranged that the orifice box could be used, however, and the rate had to be determined by actually noting the time required to fill a gallon measure. This tower had been erected by the Standard Oil Company after the receipt of my first report, but it never was used by them.

WATER HEATER. A water heater was also erected upon the top of the 8-foot settling basin for the purpose of heating the raw waste before discharging it over the aerators. It consisted of an iron can 22 inches in diameter by 35 inches deep, in which was placed a vertical coil of $\frac{3}{4}$ -inch iron pipe containing $41\frac{1}{2}$ lineal feet of pipe. The steam inlet at the top of the can was connected to the steam wash line entering the coke tower. The outlet was at the bottom of the can and was controlled by a valve just outside the can. The raw-water delivery pipe from agitator No. 1 was arranged so that raw water would be delivered at the bottom of the heater, rising to a 1-inch overflow near the top, through which the heated water was delivered to the orifice box or rate regulator.

The orifice box was placed above the 5-foot diameter coke tower, so that heated water could be delivered to the distributor above the coke, by means of the mixing trough, be delivered to a cooling tower.

COOLING TOWER. This consisted of two end pieces 10 feet high of 2 by 12 in. plank having horizontal steps or shelves of 2 in. by 12 in. rungs 3 feet long nailed between them. Alternate steps sloped toward opposite sides at a 45° angle with the horizontal, and were placed on 12-inch centers vertically. Seven such steps were used, and about 10 inches of each step was wetted during operation. Four-inch strips were fastened along the upper side of each step to prevent excessive loss through splashing. The collecting trough placed 15 inches above the foot of the cooler consisted of a flat bottom of 2 in. by 12 in. board with 1 in. by 6 in. sides nailed to the vertical end pieces. A 1-inch pipe tapped into the trough bottom discharged the effluent into the sewer manhole.

OPERATION AND RESULTS. Agitator No. 1 was used as a retaining or equalizing tank as during the first run, in order that water of a fairly uniform character might be treated from day to day and that the results of the different methods of treatment might be comparable. Due to some difficulty in the acid works, the "weak-acid tank" was out of use and the wash water which would otherwise have been diverted to this tank was washed into the sewer. For this reason the connection between agitator No. 1 and the agitator from which water was to be drawn was usually not opened for 15 minutes or 20 minutes after the wash started.

The 1½-inch supply pipe from agitator No. 1 had been fitted with a 1½ in. by 1 in. by 1 in. tee, valves and 1-inch pipe extensions in such a way that the old coke tower and the crushed stone tower could be operated simultaneously. The original orifice box was used as the rate regulator for the coke tower, but the discharge on to the rock tower had to be estimated and regulated by direct measurement.

Samples 1 to 9, inclusive, illustrate the variation in quality of wash water at different periods of a wash. Table I, following, includes a number of samples taken for this purpose not included in the general table of results of operation.

TABLE I.

CHARGE.	Number of wash.	Duration, hours.	Wash water.		
			Reaction.	Color.	Odor, dilution.
Naphtha.....	First (a).....	½	Acid, 94. p.p.m.	Opalescent.....	L. (b) 256
Naphtha.....	First.....	1	Acid, 52 p.p.m.	Opalescent.....	L. 64
S.S.S. (c).....	First.....	½	Acid.....	Very cloudy, gray...	F. (b) 200
S. S. S.....	First.....	1	Acid.....	Very cloudy, gray...	F. 400
S. S. S.....	First.....	1½	Acid.....	Very cloudy, gray...	F. 400
S. S. S.....	Second.....	½	Acid.....	Cloudy, gray.....	F. 200
S. S. S.....	Second.....	1	Alkaline.....	Fairly clear.....	F. 100
S. S. S.....	Second.....	1½	Alkaline.....	Fairly clear.....	F. 100
W. W. (d).....	First.....	½	Acid.....	Cloudy gray.....	F. 400
W. W.....	First.....	1	Acid.....	Cloudy gray.....	F. 200
W. W.....	First.....	1½	Acid.....	Cloudy gray.....	F. 200
W. W.....	Second.....	½	Alkaline.....	Slight cloud.....	F. 100
W. W.....	Second.....	1	Alkaline.....	Slight cloud.....	F. 50
W. W.....	Second.....	1½	Alkaline.....	Slight cloud.....	F. 50

a Naphtha is given only one wash.

b L indicates laboratory result; F field results.

c Steam still stock.

d Water white.

The above-noted samples will be mentioned later under the head of "Acidity of Water."

Agitator No. 1 was charged with naphtha wash on May 4 and this wash water was used during the remainder of the week, or until May 11.

The steam line entering the bottom of the small tower was opened slightly and steam allowed to rise through the rocks over which water

trickled. The temperature of the effluent was maintained at approximately 90° C., the raw water temperature varying from 20° C. to 23° C. while this tower was in operation.

The oil coke tower was operated at the same time as a plain aëerator at the rate of 28 m. g. a. d. (million gallons per acre per day), and the 8-foot settling basin was partially filled and allowed to stand to determine the effect of quiescent exposure to the air.

The heating method used was very wasteful of steam, since much of it escaped into the air uncondensed. The results obtained, however, were such that it was considered advisable to continue experimentation along this line. Accordingly, the water heater previously described was constructed. By its use all the heat given up in the condensation and cooling of the steam could be utilized for heating the raw waste before applying it to the aëerators. Table III, containing data on the operation of the heater under various conditions, will be discussed later in this report.

Both of the tower aëerators are unventilated, and it seems reasonable to suppose that the interstices in the rock or coke a short distance below the surface soon become entirely filled with the vapor given off by the warm water, and that the oxygen available is constantly depleted. Even the purely physical effect of the elimination of some of the odor in the vapor would be increased if a flow of air were maintained through the body of the aëerator. To obtain some data on the effect of aëration in the presence of a constant supply of fresh air, the cooling tower previously described was constructed. The tabulated results of these experiments will be omitted here. They have been summarized, analyzed and compared and are presented under the heading "Conclusions and Recommendations."

The water applied to the aëerators was usually kept at a temperature of 160° F. to 180° F. When the 1½-inch orifice was put into use, however, the quantity of water passing through the heater (13.6 gallons per minute) was too great to be heated to that point by the coil in use, and 135° F. was the maximum temperature attained. This fact, together with the lack of ventilation in the coke cylinder, probably accounts for the somewhat less satisfactory field results obtained at aërating rates of 28 to 44 million gallons per acre per day.

ACIDITY OF WASH WATER. The intensity of the odor given off by the waste discharged from the agitators was decidedly less during this series of tests than during the previous run. Reference to Table II of the second report shows that raw waste taken at the beginning of a wash could only be detected in dilutions of 1 to 1000 on rare occasions. During the earlier run it was not at all uncommon to detect odor in dilutions of 1 to 4000. The most common dilution obtained during the last run was 1 to 256, and this striking decrease led me to inquire as to what changes, if any, had been made in operating methods. I was informed that an increased demand for certain grades of refined oil had led to the discontinuance of the running of pressure still tar and the manufacture of motor spirits temporarily. The fact that odor in the river water had never been seriously complained of prior to the introduction of the high-temperature cracking process at this refinery, combined with the marked decrease in

odor when it is discontinued, seem to point to the use of that process as the source of the offensive odor.

There was also a noticeable increase in the acidity of the wash water and the length of the period in which it continued to give an acid reaction. During the first tests the writer noted that the wash water usually became alkaline within 40 minutes after the wash started, but this time it was not at all unusual for the water to retain its acidity during the whole wash in the case of naphtha or through the first and second washes of water white or steam still stock. It was explained that this change always occurred in warm weather. It is of importance in this connection from the fact that it will require the use of lime or some such chemical to neutralize water of an acid nature before it can be stored or treated in steel tanks.

It is interesting to note the difference in physical appearance which usually obtained between acid and alkaline waste. In Table I, under the heading "Color," it will be noted that the acid water was always cloudy, having the appearance of an emulsion, while the alkaline water was always much clearer in color. It is also noticeable that the more intense odors accompanied the more highly acid wastes. It is, of course, due to the fact that the sulphonic and naphthalenic acid compounds formed by H_2SO_4 in contact with the oil are washed out, suspended or only partially dissolved in the wash water, H_2SO_3 is also present and is readily broken up, SO_2 being given off upon agitating the strongly acid wash water or upon passing it over oil coke. This action was not so noticeable after the first week's run.

Note should be made of the fact that when a mixture of waste giving an acid reaction was stored in agitator No. 1 the acidity of the mixture usually increased from day to day. (See laboratory samples 4 to 9, inclusive.)

HEATING WATER. For the purpose of obtaining some information as to the amount of heat used in maintaining a constant temperature in water flowing through the heater, a log of several runs was kept and is attached hereto as Table III.

TABLE III. *Log of Heater Runs.*

Date and hour.	Rate, g. p. m.	Temperatures, degrees F.						Steam condensed, g. p. m.	Steam, lbs. per min.
		Heater.	Orifice box.	Effluent.	Raw.	Atmosphere.	Steam discharge.		
May 7:									
1:30 . . .	0.55	194.0	141.8	126.5	75.2	57.2	77.0	0.181	1.087
3:30 . . .	0.55	206.6	161.6	125.6	70.7	60.8	95.0	0.263	2.183
May 8:									
3:00 . . .	1.23	176.0	155.3	147.2	71.6	73.4	77.0	0.169	1.402
May 12:									
9:00 . . .	1.23	185.0	167.0	109.4	77.0	86.0	89.6	0.230	1.909
May 14:									
10:00 . . .	4.90	190.4	147.6	114.8	78.8	55.8	125.6	0.650	5.390
May 19:									
2:00 . . .	4.90	170.0	160.0	112.0	66.0	66.0	102.0	0.474	3.930
May 20:									
10:00 . . .	8.80	150.0	148.0	112.0	62.0	58.0	125.0	0.758	6.290

Temperature of steam about 240° F. External area of steam coil about 8.74 square feet. Latent heat of steam at 10 pounds pressure about 946 B. t. u.

TABLE IV.

Water.		Steam.		Efficiency of heater.
Pounds per minute.	B. t. u. used.	Pounds per minute.	B. t. u. given up.	
4.56	541.7	1.087	1205	45.0%
4.56	618.0	2.183	2387	38.7%
10.20	1064.8	1.402	1555	68.5%
10.20	1101.6	1.910	2090	52.7%
40.60	4531.0	5.390	5715	79.3%
40.60	4222.4	3.930	4260	99.0%
73.00	6440.0	6.290	6680	96.5%

Table IV is obtained from the data contained in Table III, and is of interest in that it shows a consistent increase in efficiency of the heater as the rate of flow through it increases. The maximum efficiency seems to have been reached when the flow of water amounted to about one gallon per square foot of coil area. These data are not sufficient in number, nor do they cover a sufficient range of conditions to justify us in assuming these values as the basis of design. They may be taken as a guide, however, should the plan described under the heading "Recommendations" be adopted.

CONCLUSIONS AND RECOMMENDATIONS.

CONCLUSIONS. The various data obtained during the two series of tests, of which this was the later, cover a fairly wide range of conditions and lead me to believe that the following conclusions may be drawn from them:

First. That variations in the methods of operating at the refinery cause great fluctuations in intensity of odor in the agitator wash water and in the quantity of water used for that purpose.

Second. That under certain conditions the odor in the raw water is so slight that it would be completely masked by the minimum mean flow of the Verdigris river.

Third. That only the first and second wash of steam still stock or water white and the first wash of naphtha might possibly need some treatment under the above conditions.

Fourth. That a mixture of the above-mentioned wash waters may be so acid that neutralizing by means of lime may be required if storage in contact with steel or iron pipes is contemplated.

Fifth. That aëration of the heated waste water will remove a large proportion of the odor present, but that aëration in the presence of continually renewed air is more effective than aëration over unventilated coke or crushed rock.

Sixth. That the agitator wash water at the Standard Oil Company refinery can be heated and aërated at a very small cost and with little attention. The tower stills are provided with condenser boxes 50 ft. by 55.5 ft. by 12 ft. deep over all. These in turn are subdivided into three

compartments, each containing condenser coil having a surface area of about 5300 square feet.

Water is pumped a considerable distance and against a head of probably 50 feet or more to supply these condensers. The wash water from the agitators can be used to cool these condenser coils and will not require half the lift necessary to pump the raw water. This would effect a saving in pumping cost. It will be possible to heat this water to 180° F. before discharging it to the aëerator. The location of the condensers will make available sufficient head to operate an aëerator 15 to 20 feet in height.

RECOMMENDATIONS. In view of the foregoing, I believe it advisable for the Standard Oil Company to install equipment whereby the agitator wash water may be collected, heated and aërated before being discharged into the sewer. This equipment should consist of the following parts: *Collecting or equalizing tank* for the purpose of obtaining a uniform quality of water to be treated, and to avoid bringing highly acid water in contact with condenser piping. On occasions when a mixture of all wash water remains acid the use of lime will be necessary, and a *lime solution tank* and *dosing box* should be arranged to discharge into the line connecting agitators and equalizing tank. At other times, lime should be applied to the agitator discharge for a short time after the wash is started, to avoid corrosion of the equalizing tank. By providing a simple acidity titration outfit, a graduated dosing orifice and a standard lime solution, the agitator operators could perform this work with very little additional trouble.

The amount of lime used, even under such unusual conditions as those found at times during this test, would not be great.

Assume such a naphtha wash as that placed in agitator No. 1 on May 4 having an average acidity of about 850 parts per million (as CaCO_3), and assume 55,000 gallons of water in the 1½-hour wash. There will be present 387.6 pounds of acid (calculated to CaCO_3). Then .56 of this amount, or 217 pounds of lime, will be required to neutralize it. This is an extreme assumption, for with the equalizing tank in use the average acidity would be much reduced. Judging from that of steam still stock and water white as found in Table II, I should expect 200 parts per million to be the maximum acidity. This would require about .93 pound of lime per 1000 gallons.

An aëerator or cooling tower of sufficient size to handle the average daily wash water from three agitators should be provided. As suggested in a preceding paragraph, I believe that the effect of a well-ventilated coke tower will be greater than that of a plain cooling tower because of the greater surface area furnished by the coke. It seems reasonable to suppose that a porous brick racked up loosely will give as good results, or that a series of perforated troughs or shelves containing coke would serve the purpose. Whatever form of tower is used, it should be made as high as possible.

Data regarding the design of cooling towers, etc., may be obtained from a number of mechanical engineer's handbooks and should be considered as a guide in the design of such a plant as this. The performance of the cooling tower previously described is of interest in this connection. On

May 19 the raw waste from agitator No. 1 was found in field dilutions of 1 to 400 and laboratory dilutions of 1 to 64. Upon being heated to about 170° F. and passed over the cooler at the rate of 4.9 gallons per minute, the resulting field dilution was 1 to 100 and the laboratory dilution 1 to 4—a reduction of at least 75 per cent. The total area exposed to the air, allowing 10 inches of each shelf and 6 inches drop from shelf to shelf, was about 30.5 square feet, assuming that the coke piled in the collecting trough added only the equivalent of one shelf. This rate, therefore, amounts to a total area of 6.22 square feet per gallon per minute, or a top surface area of .51 square feet per gallon per minute, or a surface rate of 123 million gallons per acre per day.

Such a plant as that outlined above will, I feel confident, eliminate enough odor to permit the discharge of the agitator wash water into the Fall river without the creation of offense to the cities farther down stream.

Kansas School of Public Health Education.

The Kansas State Board of Health, in conjunction with the University of Kansas and the Topeka Public Health Nursing Association, announces the organization of the Kansas School of Public Health Education, the primary purpose of which, of course, will be the education of public health nurses.

Sixty-two lectures will be given during the season from October 11, 1915, to May 8, 1916, two lectures to be given each Monday afternoon at two o'clock and at three o'clock respectively.

The clinical field and social work will be under the direction of the Topeka Public Health Nursing Association.

While the course is primarily designed for the education of public health nurses, yet the general public is invited to attend any or all of these lectures, a special invitation being extended to teachers, social workers, club women and all other persons interested in public health and public welfare work.

A certificate of attendance will be issued to those who present evidence of adequate preliminary education and satisfactorily complete all the work assigned them.

The work of the school will be under the direction of the Secretary of the State Board of Health, assisted by the following council: Dr. Frank Strong, Chancellor of the University of Kansas, Dr. M. T. Sudler, Associate Dean of the School of Medicine, Dr. John J. Sippy, Epidemiologist of the State Board of Health, Mrs. Charles B. Thomas, Chairman, Topeka Public

Health Nursing Association, Miss Hinch, Superior Nurse, Bell Memorial Hospital.

No fees will be charged for any of the lectures.

Until further notice lectures will be given in the offices of the State Board of Health.

Students desiring to have credit in public health work will be required to do such reading and prepare such work as may be assigned to them.

The following staff of lecturers, together with their general subjects, are herewith presented:

E. H. S. BAILEY, Ph. D., Professor of Chemistry, Kansas University: "Food Analysis."

F. H. BILLINGS, Ph. D., Professor of Bacteriology, Kansas University: "The Bacteriology of Milk."

DEAN FRANK W. BLACKMAR, Ph. D., Dean of the Graduate School and Professor of Sociology, Kansas University: "Sociology and the Public Health."

HON. S. M. BREWSTER, Attorney-general of Kansas: "The Purpose and Relation of Public Health Laws to Society."

HON. ARTHUR CAPPER, Governor of Kansas: "The Welfare of the State."

L. A. CONGDON, B. S., Asst. Chief Food and Drug Inspector: "Food Adulteration." (Two lectures.)

S. J. CRUMBINE, M. D., Secretary of the State Board of Health and Dean of the School of Medicine, Kansas University: "Communicable and Industrial Diseases." (Ten lectures.)

W. J. V. DEACON, State Registrar and Associate Professor of Preventive Medicine, Kansas University: "Demography." (Two lectures.)

LYDIA DEVILBISS, M. D., Chief of the Division of Child Hygiene, Kansas State Board of Health: "Child Hygiene." (Seven lectures.)

D. E. ESTERLY, M. D., Specialist, Eye and Ear: "Conservation of Hearing."

D. M. FISK, Ph. D., D. D., Professor of Sociology, Washburn College: "Social Pathology." (Two lectures.)

S. E. GREENFIELD, M. D., State Bacteriologist: "Laboratory Diagnosis."

PROF. C. A. HASKINS, B. S., Associate Professor Civil Engineering, Kansas University, and Engineer State Board of Health: "Water Supplies." (Two lectures.)

ASST. PROF. FRED HESSER, Assistant Engineer Kansas State Board of Health: "Sewage Disposal."

CECIL C. HOWES, A. B., Ph. B., Press Correspondent: "Public Health Publicity."

PROF. S. J. HUNTER, A. B., A. M., Professor of Entomology, Kansas University: "Insect Carriers of Disease."

JAMES L. KING, State Librarian: "How to Use a Library."

F. O. KOESTER, D. D. S.: "Oral Hygiene."

CHARLES E. LERRIGO, M. D., Member Kansas State Board of Health: "Popularizing Public Health Education."

R. S. MAGEE, M. D., Pathologist, Kansas State Board of Health: "Conservation of Vision."

W. S. MATTHEWS, A. M., M. D., Professor of Physiology, Kansas University: "The Elements of Nutrition."

C. A. MCGUIRE, M. D., Former Professor Clinical Medicine, Washburn College: "Prevention vs. Cure in Organic Diseases."

MRS. LILLA DAY MONROE, Social Worker: "The Emergency Room."

MISS DAY MONROE, Social Worker: "Dietetics."

JAS. NAISMITH, M. D., M. P. E., Professor of Physical Education, Kansas University: "Exercise and Rest in Disease."

SUPT. W. D. ROSS, State Superintendent Public Instruction: "Teaching Hygiene in the Grades."

DEAN L. S. SAYRE, M. S., Dean School of Pharmacy, Kansas University: "The Use and Abuse of Drugs."

JOHN J. SIPPY, M. D., Epidemiologist, Kansas State Board of Health: "School Inspection and Rural Sanitation." (Five lectures.)

FRANK STRONG, Ph. D., Chancellor, Kansas University: "Science and the State."

M. T. SUDLER, Ph. D., M. D., Associate Dean and Professor of Surgery, School of Medicine, Kansas University: "Social Medicine."

PROF. RAYMOND ALFRED SCHWEGLER, Professor of Education, Kansas University: "The Shadow of Yesterday."

MRS. CHARLES B. THOMAS, Social Worker: "The Public Health Nurse."

EDITH M. TWISS, Professor of Botany, Washburn College: "Eugenics."

ASST. PROF. JOSEPH E. WELKER, Assistant Engineer of the Kansas State Board of Health: "Garbage and Waste Disposal."

DEAN J. T. WILLARD, Professor of Chemistry, Kansas State Agricultural College: "Milk and its Products."

SUPT. H. B. WILSON, Superintendent Public Instruction, Topeka City Schools: "Social Hygiene."

H. B. WOODS, M. D., Topeka City Health Officer: "City Problems."

PROF. C. C. YOUNG, Asst. Professor of Chemistry and Bacteriology, Director Water and Sewage Laboratory, Kansas University: "Water Analysis."

The schedule of lectures for the course and subjects for each lecture will be announced later.

It is gratifying to note that 44 have already registered to take the course.

The Periodical Examination of Ice.

At a regular quarterly meeting of the State Board of Health, held in the city of Fredonia, October 4, 1915, the following resolutions were unanimously adopted under the provision of

Chapter 327 in the Session Laws of 1915, and ordered to be printed in the official state paper:

RULES AND REGULATIONS GOVERNING COLLECTIONS OF SAMPLES AND ANALYSIS OF ICE FOR DOMESTIC CONSUMPTION.

1. Corporations or individuals selling artificial ice for domestic consumption shall submit to the Water and Sewage Laboratory of the State Board of Health complete information concerning the source of water supply used for the manufacture of the ice and detailed description of the process involved.

2. A fifty (50) pound cake of ice manufactured shall be sent to the Water and Sewage Laboratory of the State Board of Health, Lawrence, Kansas, each year for complete analysis. Results of these analyses shall be reported to the person whose name is signed to the information sheet and to the Secretary of the State Board of Health.

3. Artificial ice shall contain less than 100 bacteria per cubic centimeter and no organisms of the *Bacillus Coli* group in one cubic centimeter. If the ice does not meet these requirements it shall be sold for refrigeration purposes only and not for domestic consumption.

4. Corporations or individuals harvesting natural ice shall file full information with the Water and Sewage Laboratory of the State Board of Health with regard to the source of the ice and the method of storage.

5. A fifty (50) pound cake of the ice shall be shipped to the Water and Sewage Laboratory of the State Board of Health during March or April each year for complete analysis.

6. Natural ice properly stored shall contain less than 100 bacteria per cubic centimeter and no organisms of the *Bacillus Coli* group in one cubic centimeter. If the ice does not meet these requirements, it shall be sold for refrigeration purposes only and not for domestic consumption.

7. County Health Officers shall furnish the Water and Sewage Laboratory of the State Board of Health with lists of ice dealers in their districts.

8. Fees for the services rendered under these rules and regulations pertaining to ice supplies shall be payable by the manufacturer or owner of the ice plant January first of each year to the Director of the Water and Sewage Laboratory of the State Board of Health at the University of Kansas, Lawrence, Kansas.

9. Fee shall be \$15 annually for each source of supply of ice which is sold for domestic consumption.

I hereby certify that the above regulations are an exact copy of those adopted at the time and the place above stated.

(Seal.)

S. J. CRUMBINE, M. D., *Secretary.*

Manufacturers of artificial ice, and persons or corporations engaged in the harvesting of natural ice should apply to Prof. C. C. Young, Director of the Water and Sewage Laboratories, Lawrence, Kansas, for information concerning the collection and forwarding of samples of ice for examination under the rules herewith promulgated.

The attorney-general has given the Board an opinion that the examination of ice comes under the provisions of Chapter 327 of the Session Laws of 1915, hence the passage of the above regulation by the State Board of Health.

Kansas is a "Healthy Country."

The Division of Vital Statistics has recently been engaged in a "check up" of the death returns from the various registration districts of the state. Letters of inquiry were sent to every registrar to get his expression as to whether, in his opinion, all deaths in his district were reported: in case an unusually low rate was obtained, that fact was certified to the registrar and request for an explanation made.

The two following letters are given as proof of the fact that Kansas is a healthy state, with a resulting low death rate.

"COPELAND, KANSAS, September 25, 1915.

"WILLIAM J. V. DEACON, Topeka, Kan.:

"Yours of the 20th at hand, in which you seem to think that there is not enough deaths in this part of the country. You don't seem to realize that this is a healthy country. Now I have bin suprised myself at the low death rate around me here where I personaly know that there has bin no deaths. I was talking to the Montezuma Doctor, since I received your letter and he said that I could tell you that he had bin here 18 months and that he had signed but two death certificates in my territory. Now I do not personaly know of any deaths in the county.

"The bearth certificates is the hardest for me to get ahold of. Now your letter reminds me of a story that was printed in a Garden City paper 15 or 20 years ago. there was a young man liveing up there that his father died back east with the Consumption and the boy thought he would have the old man shiped out there and burried in the Garden City Cemitary so he had the old man put in a casket and shiped out there and he went to the Depoe and got the Casket and took it home with him and he thought he would open the Casket and see how the old man looked and so he opened the Casket and the old man got up and went out and helped the do the chories. So you see this is a pretty healthy Country.

"Yours Truly. _____"

"BELLEVILLE, KANSAS, October 9th, 1915

"MR. W. J. V. DEACON, State Registrar, Topeka, Kan.

"DEAR SIR:—In reply to your valued letter of September 20th ult, Beg to state, that in the matter of an abnormally low death rate existing and so reported from this Republic County, It reminds me of one of our county Pioneers, He was one of pioneers in the introduction of the Alfalfa plant in this county, 25 years ago. He went by the name of Alfalfa Jim and a great many people called him crazy. However today its different, Alfalfa is one of our great crops.

"So it perhaps is with us, when we make the statement that our county cannot be beaten in the world, for Climate, Health and Prosperity.

"Our City, the County Seat of Republic County, We think is hard to beat for health, and Statistics proves the same.

"We have 2 Undertakers in this burg of 2500 souls, and I have been afraid during the past month, that if some one didn't die, soon around here the undertakers would go begging. there are various reasons for this condition. The first is the climate, the second is we have no saloons, in fact I have a son that was 22 years old before He had ever seen a saloon, and at that time a trip to Lincoln, Neb. showed him the first saloon, then third, we produce in this county the Corn Cattle and Hogs, that brings the prosperity. And for those reasons we stand first.

"Trusting that I have replied to your letter, to your satisfaction. I beg to remain your faithful servant, _____"

Report of the Division of Food and Drugs, State Board of Health.

FOR THE MONTHS OF AUGUST AND SEPTEMBER, 1915.

LEON A. CONGDON, B. S., Chief of Division.

During the months of August and September, 1915, the inspectors of this Division made 1940 inspections, covering all classes of food and drug establishments in the territory covered. The deteriorated and misbranded drug problem is one which our drug inspectors encounter every day. It might be of interest to the public to know that since July 1, 1915, our inspectors have condemned as illegal for sale 200.86 pounds pharmaceuticals, 2047 bottles and packages of proprietary, and 88.87 pounds of miscellaneous drug products. This shows that Kansas has a deteriorated drug problem on its hands. The most of the trouble seems to be in keeping the drug products too long on the drug-store shelf, or in not properly storing them. Deterioration of drugs may be defined as a change of therapeutic value by decomposition or loss of constituents, or in change of color or appearance, to make the article unsalable. The writer is preparing an outline as to the length of time from date of manufacture, official drugs and pharmaceutical products will keep, if kept under ordinary conditions. We have taken this proposition up with a large number of manufacturers of pharmaceutical products and have received many interesting replies. Deteriorated and misbranded foods as found by our inspectors have not been neglected. Our inspectors have condemned, from July 1 to October 1, 1915, as misbranded and deteriorated the following food products which are representative: 348 bottles, kegs, etc., of pickles which contained salts of aluminum or were contaminated by skippers or spoiled; 138 cans of various brands of baking powders which contained no formula on label or were old and deteriorated; 159 bottles of flavoring extracts for added coloring; 35 sacks of flour contaminated by mice; 172 sacks of bran which were caked and musty; 10 packages of pancake flour which were wormy; 24 packages of wormy breakfast food; 6 pounds wormy crackers and cookies; 25 glasses of misbranded and spoiled jam and jelly; 133 pounds spoiled meat; 27 cans swelled canned goods on shelves of stores; 17 cans wormy chilli peppers; 60 pounds of flyspecked and damaged candy; 70 pounds

damaged cane sugar; 15 quarts of vinegar labeled as diluted; 54 pounds wormy, evaporated fruit; 22 pounds sour and wormy mince-meat, etc., making a total of 1363 food products condemned as illegal for above-mentioned reasons.

The following table gives the summary of inspections for August and September, 1915:

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Grocery.....	518	266	23	219	10
Meat market.....	99	55	6	37	1
Bakery.....	72	27	8	25	2
Grocery and meat.....	72	23	5	42	2
Grocery and confectionery.....	2				
Grocery and bakery.....	7	2		3	2
Grocery and feed.....	2			2	
Grocery, meat and bakery.....	2	1		1	
Bakery and confectionery.....	4	1	1	2	
Confectionery and candy kitchen.....	61	45	11	5	
Delicatessen.....	1	1			
Coffee, tea and spice.....	2	2			
Slaughter house.....	23	11		8	4
Drug store.....	213	75	23	111	4
Medicine wagon.....	1	1			
Medicine drug stock.....	1				
Bottling works.....	14	5	7	1	1
Ice cream factory.....	14	5	6	3	
Butter factory.....	1	1			
Creamery.....	1	1			
Dairy.....	4				
Eggs and poultry.....	7	7			
Flour mill.....	3	3			
Wholesale grocery.....	3	2		1	
Wholesale candy.....	1	1			
Fountains at cigar stands, news stands, pool halls, notions, rackets, etc.....	23	4	9	10	
Pickle and vinegar works.....	1				
Ice cream and confectionery.....	2		1		1
Ice cream and pop.....	1	1			
Train inspections to see if water and ice in separate tanks.....	40				
Fair stands at Topeka and Hutchinson.....	284				
Gasoline measuring devices.....	11				
Linseed oil inspections.....	2				
Special inspections, heavy weight scales and weights.....	19				
Special huxter wagon, inspections of weights and measures.....	10				
Nuisance complaint at residence.....	1				1
Barber shop.....	1				
Hotel.....	95	63	5	18	9
Rooming house.....	70	51	2	9	8
Restaurant.....	238	143	13	61	21
Restaurant and rooms.....	12	5	1	3	3
Restaurant and hotel.....	4	1			3
Restaurant and bakery.....	2			2	
Restaurant, confectionery and meat.....	2			2	
Restaurant and meat.....	2			1	1
Restaurant and confectionery.....	1			1	
Total.....	1,940	804	120	569	73

Per cent of Sanitation.

(Exclusive of those not classed.)

Good, 51.34 per cent; good to fair, 7.66 per cent; fair, 36.83 per cent; poor, 4.67 per cent.

During the months of August and September our analysts have reported upon 233 food products, of which 172 were classed as passed and 61 as illegal. Fourteen drug products were reported, of which 12 were passed and 1 was illegal. The following table shows the kind of food and drugs reported:

FOODS.					DRUGS.				
KIND OF SAMPLE.	Number.....	Passed.....	Misbranded.	Adulterated.	KIND OF SAMPLE.	Number.....	Passed.....	Above stan- dard.....	Below stan- dard.....
Beverages:					Alcohol.....	1	1		
Ginger ale.....	1	1			Capsicum.....	8	8		1
Pops.....	40	26		14	Cassidy's herbs.....	1	1		
Root beer.....	1			1	Insect powder.....	2	2		
Miscellaneous beverages.....	11	6	5		Pepsodent.....	1			
Candy.....	30	27	1	2	Totals.....	14	12	0	1
Celery.....	1			1					
Extract of lemon.....	1			1					
Extract of pineapple.....	1	1							
Extract of vanilla.....	2	1	1						
Graham flour.....	3	2		1					
Hominy.....	2	2							
Ice cream.....	13	4		9					
Jams and jellies.....	14	9		5					
Preserves.....	6	5		1					
Lima beans.....	4	4							
Milk.....	68	64		4					
Milk evaporated.....	4	4							
Pickles.....	12	6		6					
Maple sugar.....	1		1						
Syrups, flavoring.....	2	2							
Sweet potatoes.....	1		1						
"Snow Mellow".....	1	1							
Sausage.....	7	4		3					
"Seasonings".....	1	1							
Vinegar (cider).....	6	4		2					
Wheat.....	1			1					
Totals.....	233	172	9	52					

During the months of August and September, 1915, our inspectors have examined 1320 scales, 3520 weights, and 871 measures, condemning 18 scales, 57 weights, and 1 measure.

The following prosecutions are reported which terminated since last report was given on this subject:

- W. H. Mott, of the firm Mott & Seaborn, Herington. Sale of substandard and adulterated milk. May 21. Plead guilty, and was fined \$1 and costs, \$3. I. and R.
- Forbes & McGill, Cheney. Sale of bad meat. June 21, by city health officer. "Evidence showed there had been several sales of bad meat, but jury decided it was not done intentionally on part of defendants, and acquitted them."
- Dr. Geo. N. Hartwell, Jamestown. Keeping for sale substandard Tr. Iodine. June 28. Plea of guilty; was fined \$5 and costs. R.
- E. H. Burkhart, Hiatt (mail Lansing). Sale of adulterated and substandard milk. August 8. Found guilty; fine and costs. D.
- John Schneider, Lansing. Sale of adulterated and substandard milk. August 8. Found guilty; fine and costs. D.
- W. B. Greever, Lansing. Sale of adulterated and substandard milk. August 8. Found guilty; fine and costs. D.
- W. C. Wiehe, Lansing. Sale of adulterated and substandard milk. August 8. Found guilty; fine and costs. D.
- C. L. Walkenwits, Leavenworth. Sale of adulterated and substandard Sweet Spirits of Nitre. May 5. Plea of "guilty"; fined \$5 and costs, \$7.90. R.

M. Stratos; "Clean Candy Kitchen," Leavenworth. Sale of adulterated and substandard ice cream. May 5. Fine and costs. R.

Seitz Bros., proprietors Leavenworth Creamery Co., Leavenworth. Sale of adulterated and substandard ice cream. May 5. Fine and costs. R.

Frey & Hedges, Leavenworth. Sale of adulterated and substandard ice cream. May 5. Fine and costs. R.

Eagle Bottling Works, Kansas City. Sale of pop containing saccharine. August 11. Found for defendant. B.

Rural Sanitation.

In 1909 the Commission on Country Life reported that "the farm should be the most healthful place in which to live, and there are numberless farmhouses, especially of the farm-owner class, that possess most excellent modern sanitary conveniences. Still it is a fact that there are also numberless other farmhouses, especially of the tenant class, and even numerous rural schoolhouses, that do not have the rudiments of sanitary arrangement. Health conditions in many parts of the open country, therefore, are in urgent need of betterment."

The problem of rural sanitation calls for consideration from two points of view: that of the possible danger of objectionable surroundings and unhygienic practices to the individual on the farm and his immediate neighbors; and that of the menace which insanitary farm conditions may present indirectly to urban communities. The sanitary relation of the farm to the city involves almost entirely the possibility of the spread of actual infection from country to city through milk, meat, vegetables and other farm products. A few years ago it was not uncommon for farmers to meet with a spirit of resistance any suggestion of hygienic improvements which were planned to diminish the danger of the farm as a starting point for the spread of disease. At times there has actually been aggressive opposition to proposed regulations the object of which was defensible from every unbiased point of view. The milk industry could furnish many instances in recent times of actual refusal on the part of farm communities to supply an essential food to the market under conditions that to-day are everywhere accepted as rational and necessary.

A few years ago the apparent indifference of the rural community to the needs of the urban population dependent on the farm for a healthful food supply could be excused on the basis of ignorance. To-day there is no excuse for apathy toward the teachings of modern sanitation. The campaign of education that is being waged throughout the United States

by all manner of forces—municipal, state and national—by agencies connected with the Public Health Service, the Department of Agriculture, the experiment stations, the state universities, boards of health, civic organizations and the public press ought to win its way into every rural home that has any ties whatever with civilized communities.

The better understanding of the farmer's unavoidable responsibility toward his distant fellow citizen has in turn reacted to advantage in respect to his own environment. As a recent writer has expressed it: Fortunately with the general advance in rural standards of living in recent years there has come about a considerable awakening of interest among farmers and representatives of rural communities along these lines, as well as among the public as a whole. Modern methods of communication and travel have to a great extent brought the rural districts into closer relationship with the towns and cities. The farmer learns of the improved general health and reduction in the death rate resulting from the decrease of the ravages of contagious disease, which has been brought about through the introduction of such preventive measures as a sanitary water supply, proper methods for the disposal of sewage and garbage, and mosquito and fly extermination, and wishes to avail himself of these benefits.

The country medical practitioner well realizes the futile idealism of much that emanates from an urban desk. Sometimes the most elementary sanitary conditions offer puzzling problems when the expense and feasibility of the proposed remedies are carefully studied. Too often the city reformer forgets the enforced monotony of diet, the lack of recreation and the excessive hours of work which farm conditions may entail in some sections and at certain seasons. There are social as well as economic forces involved in farm life, says *The Journal of the American Medical Association*. The reform of rural sanitation, which is undeniably called for in some parts of the United States, must not overlook the personal element so strong in the country dweller. With the exigencies of the situation kept in mind the campaign for improvement in rural sanitation is likely, in the words of a recent writer, to do much to make farm life at once more profitable, more healthful and more attractive, and by so doing contribute to safeguard the food supply, and therefore the health and the efficiency of the

nation. That the rural population of Wilson county is alive to the menace of insanitary conditions is amply proven by the results following the county survey made by the United States Public Health Service coöperating with the State Board of Health, and the wonderful "Sanitation Day" demonstration marking the close of the work.

The Tonic Effect of Sympathy with Others.

Some years ago there appeared in the newspapers an open letter in which a suffering and helpless woman asked aid in securing a law to permit invalids pronounced incurable after a medical consultation to be painlessly put to death. Naturally, the latter attracted attention and reawakened the old question whether or not physicians are ever justified in shortening life. It is of interest, then, to note that the writer of the letter now rejoices at the nonfulfilment of her wish. She has lived to experience how much life may hold even in the face of bodily helplessness, and how greatly hope brightens prospects which seem at first so unfavorable. She tells of having received thousands of letters from all over the world containing messages of sympathy and approbation for her daring attempt to secure a modification of present-day laws protective of life. Some of these invalids, she says, have since written her of their cure and of their gladness that conservatism and old-fashioned legislation had intervened between themselves and their impatience. One of these correspondents, who was sure that hope was dead for her, and who eagerly desired the "finis" at the end of the chapter, has written of her complete recovery and how much more life now means to her since she has "passed through the shadow of the valley of desolation." This correspondence has proved, as might well be expected, a stimulant and a tonic to the invalid. She feels not only that her contact with others has given them a renewed interest in life, but also that even her mistaken suggestion of a revolutionary change in law has not been without its good effect, since it has drawn together, in bonds of deep human sympathy, invalids who felt their helplessness yet were helped by the knowledge of their common lot. It was the touch of nature that makes the whole world kin—and kind, says *The Journal of the American*

Medical Association. Probably nothing is more stimulating and genuinely tonic to sufferers, especially those with chronic ailments, than the feeling that in spite of their own helplessness they themselves can still be helpful to others. The Shut-in Society in this country has made life more bearable for many persons who are confined to their rooms or their houses. Nothing disturbs a certain class of patients so much as to be constantly in contact with those who are in good health and strength and whom they can scarcely help but envy. To be brought into touch with those for whom they themselves can feel is a precious source of consolation and uplift. Pity is a luxury to be enjoyed, but no human being likes to be pitied or to feel that he is an object of pity. To be conscious of some advantage in one's situation over that of others is of itself an alleviation for many sicknesses.

Spasmodic cleanliness is better than no cleanliness at all. But it is being clean all the time that makes most for health, happiness and freedom from disease.

Most of our human worries are simply excess baggage that we do not need to take along and which to carry costs us in bodily wear and tear ten times its value. It is a good plan to travel light and take things as easy as possible. Not that we should shirk either our work or our responsibilities; but we need not carry excess baggage.

Philosophy.

The signs is bad when folks commence
A findin' fault with providence,
And balkin' cause the earth don't shake
At every prancin' step they take.
No man is great till he can see
How less than little he can be
Ef stripped to self, and stark and bare
He hung his sign out anywhere.
My doctern is to lay aside
Contentions and be satisfied.
Just do your best and praise or blame
That follows, that counts just the same.
I've allus noticed great success
Is mixed with troubles more or less
And it's the man that does the best
That gets more kicks than all the rest.

—James Whitcomb Riley.

Box Files.

If an unkind word appears,
File the thing away.
If some novelty in jeers,
File the thing away.

If some clever little bit
Of a sharp and pointed wit,
Carrying a sting with it—
File the thing away.

If some bit of gossip come,
File the thing away.
Scandalously spicy crumb,
File the thing away.

If suspicion comes to you
That your neighbor is n't true,
Let me tell you what to do—
File the thing away.

Do this for a little while,
Then go out and burn the file.

—*John Kendrick Bangs.*

Moving pictures would be more enjoyable and wholesome if they were served with moving fresh air.

The attendance at the Kansas School for Public Health Education exceeded our expectation by about 400 per cent.

There are still a few doctors and midwives who fail to report their births. Don't blame us if the county attorney interviews you.

"You never can tell. You never can tell": Therefore take no chances with the cold your child has. It may be the advance symptoms of one of the infectious diseases.

The Doctor.

We may idealize the chief of men—
Idealize the humblest citizen—
Idealize the ruler in his chair—
The poor man, or the poorer millionaire;
Idealize the soldier—sailor—or
The simple man of peace—at war with war—
The hero of the sword or fife-and-drum—
Why not idealize the Doctor some?

He is the master of emotions—he
Is likewise certain of that mastery—
Or dare he face contagion in its ire,
Or scathing fever in its leaping fire?
He needs must smile upon the ghastly face
That yearns up toward him in that warded place
Where even the Saint-like Sisters' lips grow dumb,
Why not idealize the Doctor some?

He wisely hides his heart from you and me—
He hath grown tearless, of necessity,
He knows the sight is clearer, being blind;
He knows the cruel knife is very kind;
Oft times he must be pitiless, for thought
Of the remembered wife or child he sought
To save through kindness that was overcome
Why not idealize the Doctor some?

Bear with him, trustful, in his darkest doubt
Of how the mystery of death comes out;
He knows—he knows—aye, better yet than we,
That out of Time must dawn Eternity;
He knows his own compassion—what he would
Give in relief of all the ills, if he could—
We wait alike one Master: He will come:
Do we idealize the Doctor some?

—James Whitcomb Riley.

BULLETIN

OF THE

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S. J. CRUMBINE, M. D., Editor.

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CONTENTS.

Sanitation Reports for October, 1915, page 306.
Circular to Distributors and Users of the State Board of Health's Biological
Products, page 308.
Presence of Saccharin in Foods, page 308.
Kansas Case of Foot-and-mouth Disease, page 311.
Factor of Age in the Incidence and Death of Typhoid Fever, page 311.
Prayer of a Rotarian, page 319.
Defectives, page 320.

Germs are "catching."

Look to your radiations.—*Adler.*

At sunrise never failed us yet.—*Thaxter.*

Look to your radiators this cold weather.

Don't be afraid of it! What? Fresh cold air.

Be steady first; then courage; then brains.—*T. R.*

The business of the nation is the service of mankind."

A school for public health education has come to stay.

San milk, clean mothers, healthy fathers—*better babies.*

We are free in a bound universe, and that's the miracle.—

Make that your living rooms contain a proper amount of
sunlight during the winter.

Do egg venders in Topeka have been "stung" for selling
"cheap" eggs for fresh eggs. Dealers, have a care!

One more thing Topeka must do to become a model city—
clean the city "bull pen" and substitute therefor a municipal

Number of cases reported from each county.

[illegible]

Hints to Distributors and Users of the State Board of Health's Biological Products.

In a recent BULLETIN announcement was made of the biological products furnished to the indigent poor of the state by the State Board of Health, and the conditions of their distribution were fully set forth.

The H. M. Alexander Company recently sent to all the physicians and druggists of the state a list of distributing stations where the State Board of Health products can be found. It is requested that this list be preserved by both physicians and druggists in order that it may be used for ready reference to indicate where to find the state supplies.

An emergency stock of these products is carried by the State Board of Health at Topeka, but dealers should not replenish their stock from the Board's supply, except under urgent emergency conditions. Orders for the replenishment of stock should be sent to the H. M. Alexander Company, Marietta, Pa.

Requisitions are often received by this department for biological products other than those handled by the State Board of Health. This department can not honor such requisitions. Only such products bearing the label of the State Board of Health can be paid for by the Board of Health, and then only when they are used by the indigent poor of the state, as specifically provided in the appropriation.

Physicians using any of these products should promptly fill out requisitions, turning them over to the distributor, who, in turn, forwards them to the Doctor H. M. Alexander Company, Marietta, Pa.

Distributors are also urged to keep these products in refrigeration, as under ordinary room temperatures they are subject to deterioration.

The Use of Saccharin in Foods.

By PROF. CHARLES H. LA WALL, of Philadelphia.

Saccharin in foodstuffs has only one argument in its favor, *i. e.*, it cheapens the cost of production. This, however, is no advantage to the consumer, for when it is used in canned foods the goods are sold at no lower price at retail, with the exception of one product alone, and that is the bottled soft drinks or

ap sodas and "pops." So far as these products are concerned, I think their very cheapness makes them doubly dangerous, and feel sure that many cases of sickness in the poorer districts of the city are caused by this same saccharin in the drinks which are so freely consumed there. As authority on this opinion I would refer you to Dr. Edwin Rosenthal, of Pine street, who has an extensive medical practice in the center of the city where these adulterated soft drinks are freely sold and who has upon more than one occasion expressed himself emphatically as unhesitatingly condemning them.

Saccharin is a synthetic or artificial product made from benzene, one of the fractions of coal tar. This fact alone need not necessarily be taken as an argument for its condemnation, but it is quoted to show that it has no chemical relationship to anything in common with sugar, for which it is used as a substitute. Chemically it is known by the terrifying name of *o*-sulphamidobenzoic anhydride, and the history of its discovery, or rather the discovery of its intense sweetness, which was purely accidental, is one of the most interesting in chemical literature.

Saccharin, besides being a sweetener of 550 times the intensity of sugar, is a substance having a marked preservative action, and thus fulfils a double function, which makes it all the more desirable to use, from the standpoint of those manufacturers who look to profits regardless of the health of the individuals who consume their wares. As an antiferment, or preservative, it is credited with being more harmful than sodium metabisulfite, salicylic acid, or even sulphurous acid.

When used it not only exerts a detrimental influence upon the normal functions of the body, but it cheats the organisms out of a valuable food product—sugar. Sugar has a high and true food value; saccharin has none. Therefore the use of saccharin in food products cheats the consumer out of a valuable constituent which the system craves and to which he is rightfully entitled.

A number of European chemists and physiologists have investigated this subject thoroughly and have reported adversely concerning its action. Dujardin Beaumetz states: "The use of saccharin in foods presents a danger to the public health. Saccharin is not a food, but a medicine." The committee of the

Seine Council expressed the same opinion. Sollman, a well-known American authority, states: "Saccharin has the properties of the coal-tar group, and is therefore antiseptic and irritant. It is sometimes given in fermentative dyspepsia. Its long-continued use interferes with digestion, and may lead to nephritis" (kidney disease).

Mathews and McGuigan state that "saccharin acts as a protoplasmic poison and restrains the salivary and pancreatic ferments."

Based upon the results of the many investigations which have been made, and for the purpose of controlling or prohibiting its use in food products, *France, Italy and Portugal prohibit its importation*, the academies of Madrid and Rio de Janeiro declare its addition to foods a dangerous adulteration, and its importation into Belgium has been restricted.

While it has been largely used as an artificial sweetener by diabetic patients who dare not take sugar, it is always used under the advice and control of a physician, and that they (physicians) are beginning to question the advisability of even such a limited use is shown by the fact that in the recently published edition of the Physicians Manual of the United States Pharmacopœia and National Formulary this statement appears: "Saccharin should be used, if at all, with care." If physicians must be careful in using it, it certainly can not be a safe article to permit the use of in food products.

Finally, the Referee Board, the same body which permitted the use of sodium benzoate in foods, in April, 1911, decided against the advisability of permitting the use of saccharin in foods. The U. S. Department of Agriculture, therefore, has issued decisions to the effect that while saccharin may be used in food especially prepared for diabetics, and as a drug, it is not permissible to use in ordinary food products even when declared upon the label.—*Food Inspection Decision No. 146, U. S. Department of Agriculture—June, 1912.*

Now I get me to my work;
I pray the Lord I may not shirk.
If I should die before the night,
I pray the Lord my work's all right.

A Human Case of Foot-and-mouth Disease.

Early in November a case of human foot-and-mouth disease was notified from Ellsworth county by the health officer, Dr. Fred O'Donnell, the case occurring in the practice of Doctor O'Donnell.

The disease is rarely transmitted to the human, but few cases being reported in this country, although several German authorities have reported several epidemics of large numbers of persons, notably one that occurred in a suburb of Berlin in 1900, in which 6000 persons were infected, probably through the medium of an infected milk supply.

The diagnosis in this case was confirmed by Dr. Richard H. Stoneman, dermatologist of the School of Medicine of the University of Kansas.

A searching investigation failed to reveal the source of infection.

The Factor of Age in the Incidence and Death of Typhoid Fever.

By WILLIAM J. V. DEACON, State Registrar, Topeka.

Among the scores of ills that affect mankind there is probably no disease which presents as many interesting phases for statistical study as typhoid fever.

Being a "reportable disease" in most states, there is a rich fund of data available, unsurpassed in any other disease, unless it be tuberculosis.

Being a "preventable disease" renders all statistics of peculiar value as pointing to the major and individual foci and providing the sanitarian with the fundamental basis from which to carry on his campaign for correction of the "sanitary short circuit" responsible for the propagation and spread of the *Bacillus typhosus*.

Being a "community disgrace," published statistical information arouses the public to the necessity of vigorous action which will support and stimulate the health authorities in the performance of their duties and secure sufficient official aid and appropriations to make possible effective executive action. Because of the fact that most writers on the subject of typhoid fever insist that it is largely a disease of early adult life and lay much stress on the relation of age to incidence, a careful study was made of the last one thousand deaths reported in

TABLE I.—Showing distribution of 1000 deaths from typhoid fever in Kansas by age and sex.

Age.	Total.		Males.		Females.	
	Deaths.	Per cent.	Deaths.	Per cent.	Deaths.	Per cent.
Under 5 years.....	64	6.4	30	3.0	34	3.4
5 to 9.....	58	5.8	32	3.2	26	2.6
10 to 14.....	90	9.0	38	3.8	52	5.2
15 to 19.....	125	12.5	54	5.4	71	7.1
20 to 24.....	174	17.4	119	11.9	55	5.5
25 to 29.....	114	11.4	78	7.8	36	3.6
30 to 34.....	96	9.6	58	5.8	38	3.8
35 to 39.....	50	5.0	32	3.2	18	1.8
40 to 44.....	54	5.4	36	3.6	18	1.8
45 to 49.....	29	2.9	18	1.8	11	1.1
50 to 54.....	35	3.5	20	2.0	15	1.5
55 to 59.....	23	2.3	14	1.4	9	.9
60 to 64.....	31	3.1	19	1.9	12	1.2
65 to 69.....	20	2.0	15	1.5	5	.5
70 to 74.....	24	2.4	11	1.1	13	1.3
75 and over.....	13	1.3	5	.5	8	.8
Total.....	1,000	100.0	579	57.9	421	42.1

Kansas, and the results in relation to sex and age are submitted herewith.

It will be observed in table I that about 58 per cent of the deaths were male and 42 per cent female. This is slightly different from the sex distribution as shown in the 11,290 deaths from this disease reported in the registration area for 1913, where the difference was 59 per cent male to 41 per cent female.

It is probable that there is no sharp distinction to be drawn from the above as to the relative resistance of the sexes. Unfortunately, case reports are so incomplete that the attempt to determine a comparative mortality rate is unsatisfactory.

The fact that the male is, as a rule, more of a migratory sort of animal, and is more likely to be placed in the path of infection from water and milk supplies, probably accounts, in a large measure, for this difference.

In table I the mode—that is, the age at which the greatest number died—is at 23 years and in the group 20 to 24, but this mode is at considerable variance in relation to the sexes; the mode for males is at 27 years, but in the group 20 to 24; and for females at 17 years, in the group 15 to 19.

The median—that is, the point at which one-half of the number died—is at 23.6 years; for males 25.3 and for females 21.9 years.

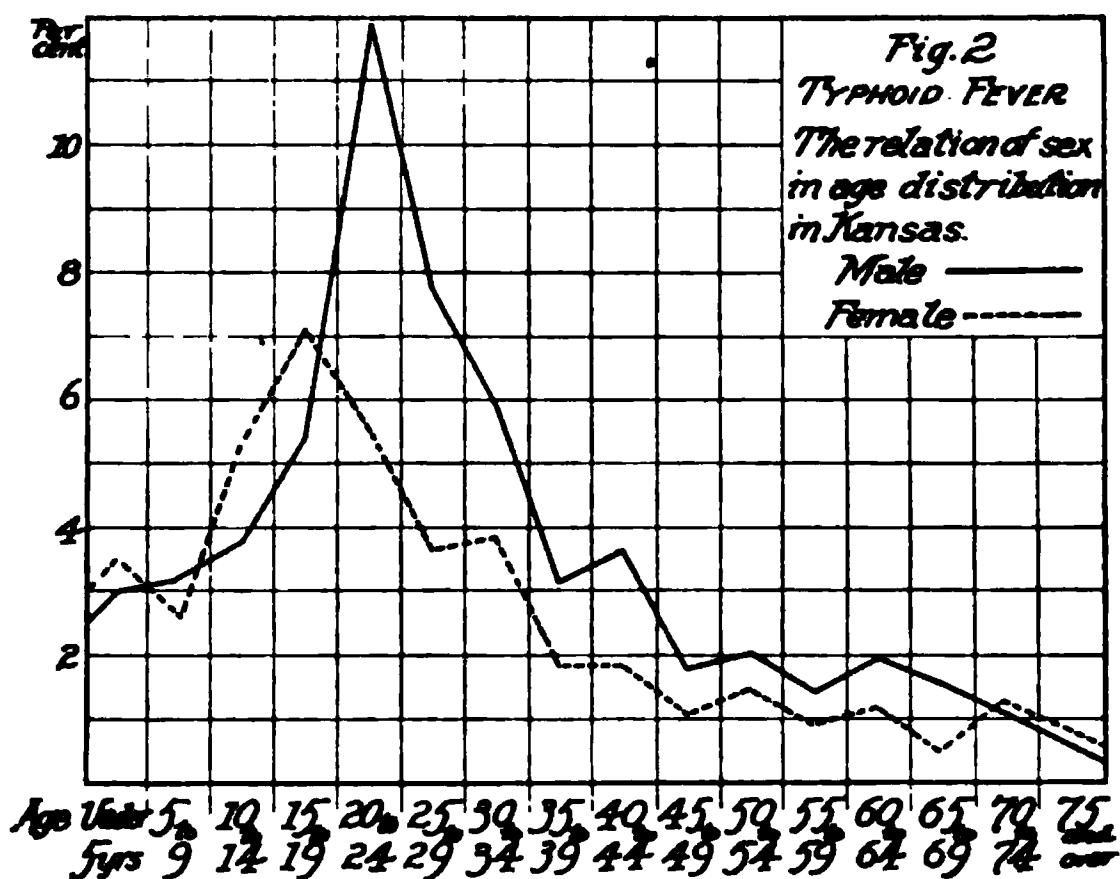
TABLE II.—Distribution by age of 11,290 deaths from typhoid fever, United States registration area, 1913.

Age.	Total.		Males.		Females.	
	Deaths.	Per cent.	Deaths.	Per cent.	Deaths.	Per cent.
Under 5 years.....	627	5.5	316	2.8	311	2.7
5-9.....	759	6.7	367	3.3	392	3.4
10-14.....	825	7.3	360	3.2	465	4.1
15-19.....	1,544	13.7	822	7.3	722	6.4
20-24.....	1,817	16.1	1,163	10.3	654	5.8
25-29.....	1,366	12.1	907	8.0	459	4.1
30-34.....	938	8.3	609	5.4	329	2.9
35-39.....	808	7.1	509	4.5	294	2.6
40-44.....	672	6.0	424	3.8	248	2.2
45-49.....	558	4.9	367	3.2	191	1.7
50-54.....	418	3.7	256	2.3	162	1.4
55-59.....	336	3.0	206	1.8	130	1.2
60-64.....	232	2.1	146	1.3	86	.8
65-69.....	197	1.7	108	.9	89	.8
70-74.....	101	.9	63	.6	38	.3
75 and over.....	97	.9	42	.4	55	.5
Total.....	11,290	100.0	6,665	59.1	4,625	40.9

This wide variation is not peculiar to Kansas. In table II may be found the distribution by age and sex for the registration area of the United States for 1913, and it will be observed that the mode lies in the same group, namely, 20 to 24 years.

In the comparison of the age groups, however, it will be found that in both of the tables there is a wide variation in the number of deaths for males and females. In the registration table the group of 15 to 19 years is the highest for females, and the next group, 20 to 24 years, is the mode for males.

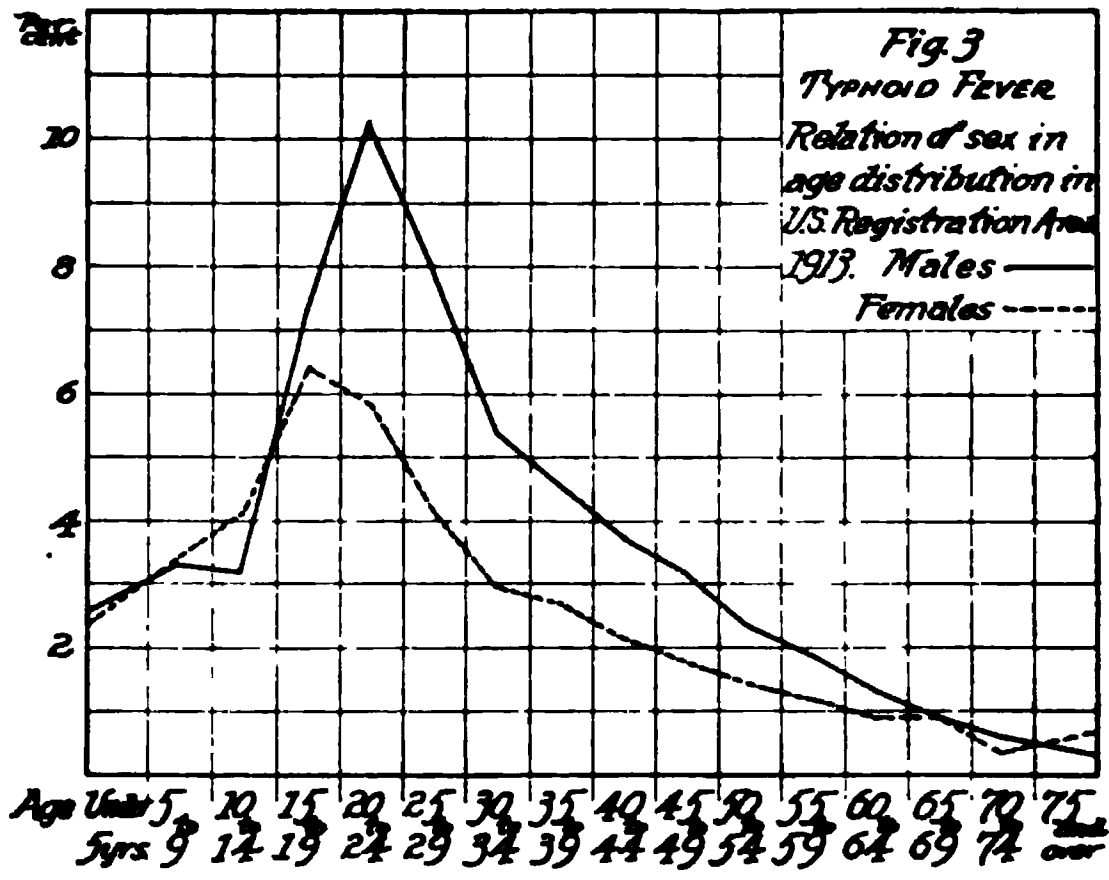
It is our young and vigorous adult life that is paying for the sanitary crimes, in this case 50 per cent of the deaths occurring between the ages of 15 and 34 years. However, here we find a sharp distinction between the sexes, in the 52.5 per cent occurring between these ages and in the male but 46.7 per cent.



Many authorities assert that children rarely have typhoid fever, but we find by reference to table II that 627 deaths, or 5.6 per cent, were in children under five years of age.

The reason that our modern practice finds so much more typhoid fever among children is because with our modern laboratory methods of positive diagnosis it is now possible to make diagnoses of the disease which heretofore were unrecognized. It is entirely probable, as we reach more careful methods, that many deaths now recorded as diarrhoea and enteritis in children under two years will be found to be typhoid fever.

The age distribution between Kansas and the registration area is quite similar, as shown by figure 4, the fluctuations in



nsas curve above the age of 35 being smoothed in the
ation area curve, but this does not appear significant,
larger number of samples in any study will always tend
oth the curve.
most significant single item herein appears in the much
age of death of females than of males; the most plausi-
planation seems to lie in the relation of the period of
idence and least resistance to the age of maturity, or
e of puberty.

CASES.

he time of beginning this study there were at hand
ports of cases in Kansas containing sufficient informa-
r the purpose, and through the courtesy of Dr. J. W.
assistant surgeon general, United States Public Health
e, data was secured covering about 15,000 additional
The following cases are therefore used in this paper:

Kansas	1,045
Pennsylvania	10,316
Minnesota	3,237
Michigan	1,706
<hr/>	
Total	16,304

eliminates those of unknown ages or other unsatisfac-
r incomplete items.
age distribution of these is shown in table III:

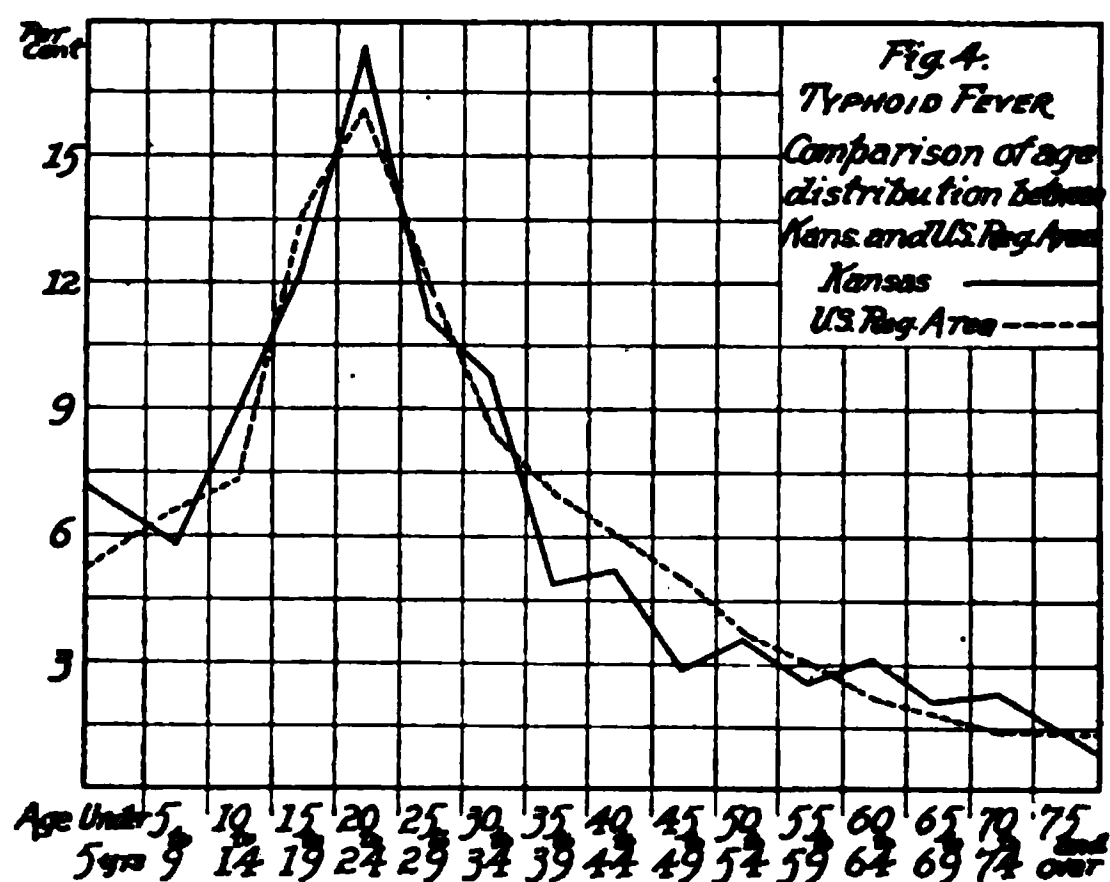
TABLE III.—Showing age distribution of 16,304 cases of typhoid fever.

AGE.	Number of cases.	Per cent.
years.....	735	4.5
.....	2,207	13.5
.....	2,164	13.3
.....	2,498	15.3
.....	2,722	16.7
.....	1,844	11.3
.....	1,263	7.8
.....	942	5.8
.....	680	4.2
.....	446	2.7
.....	352	2.2
.....	201	1.2
er.....	250	1.5

It is most striking to note the wide variation in the curves showing the comparison between the deaths and cases by age as shown in table IV and illustrated by figure 5. It will be observed that under the age of 25 in each age group, except that of under 5 years, there is a much larger percentage of cases than of deaths, while above that age the reverse is true. In the age groups between 5 and 25 years occurred 58.8 per cent of the cases, with but 43.8 per cent of the deaths occurring in this age grouping.

We appear safe in the conclusion, therefore, that this group represents the age of highest resistance and the point of lowest mortality rate. It is by no means certain, however, that the variation from the rule disclosed in the group under 5 years is to be relied upon, as the frequent failure of diagnosis in young children will probably account in a large measure for this deficiency.

Above the age of 25 years there is a marked and steady increase in the proportion of deaths, showing that the impairments of the system from the various causes of our social and industrial life tend to a sharply reduced resistance and consequently increased mortality rate.



E IV.—Comparison of age in cases and deaths from typhoid fever, by percentage.

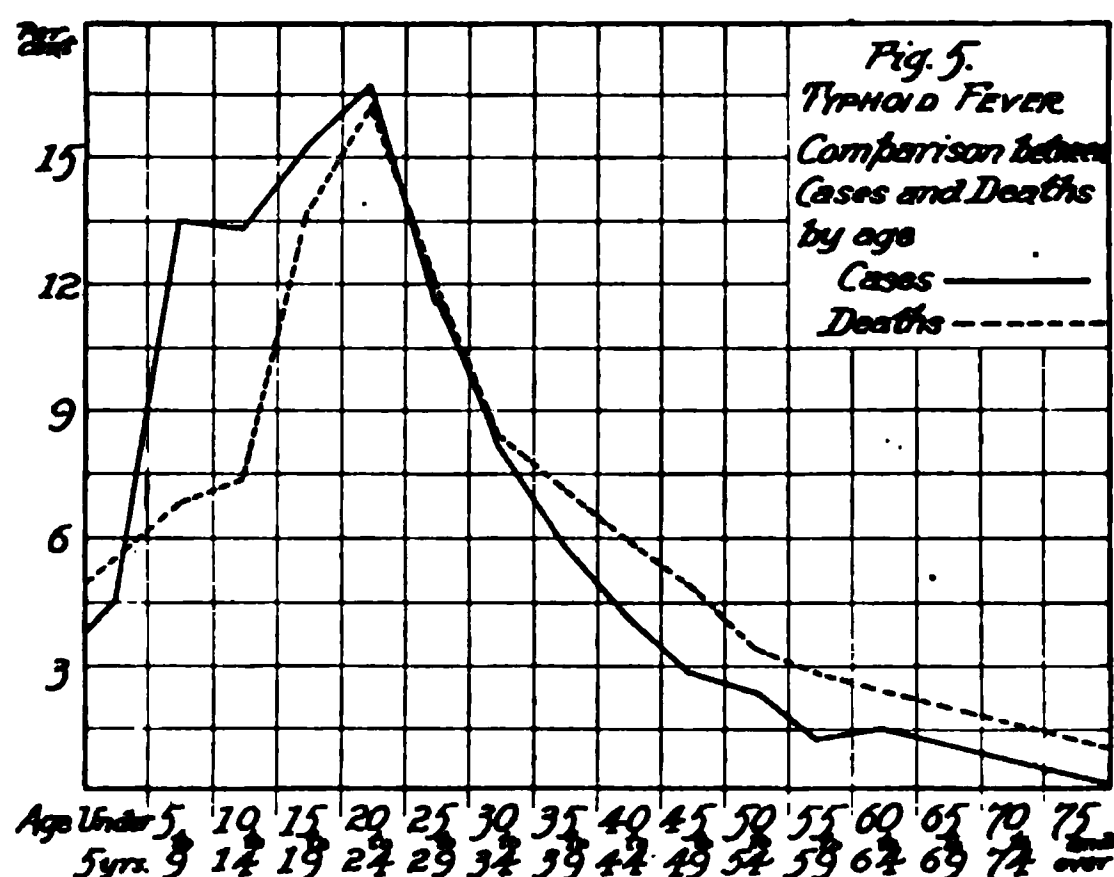
Age.	Per cent cases.	Per cent deaths.
15.....	4.5	5.5
16.....	13.5	6.7
17.....	13.3	7.3
18.....	15.3	13.7
19.....	16.7	16.1
20.....	11.3	12.1
21.....	7.8	8.3
22.....	5.8	7.1
23.....	4.2	6.0
24.....	2.7	4.9
25.....	2.2	3.7
26.....	1.2	3.0
27.....	1.5	5.6

y prognosis of this disease the age of the patient must idered an important factor, as well as the habits of eding the attack. Literature, however, does not seem uch stress on the factor of personal resistance, but n be no doubt that the virulence of the attack depends ge measure on the directness of the infection.

is a wide divergence of opinion as to the number of typhoid fever that eventually become carriers, but ber is sufficiently large to warrant insistence on the ed observation of recovered cases until laboratory ex- on indicates that the case is not a menace to society. not unreasonable to suppose that the sharp decrease umber of cases after middle life is due in a large meas- ne fact that most people have had the disease prior to e, although possibly unrecognized, and thereby estab- nmunity.

fect of typhoid fever upon our general death rates, due diseases, is a most important element. The following n from Dr. Louis I. Dublin, "Typhoid Fever and its ," is of absorbing interest in this regard:

ffort was directed to a comparison of the actual and expected among the 1428 survivors. Our method was as follows: The s were distributed by sex and color and by ten-year periods. e schedule was prepared for each sex and color. The mortality he company (Metropolitan Life Insurance Company) for each age, sex and color class was employed as a standard. We as-



sumed that the mortality actually experienced in 1911 by the company in the industrial department should serve as the measure of the expected deaths for the corresponding group of these persons who had recovered from typhoid fever in 1911 for the first year after recovery. For the second year after recovery we employed similar mortality figures for the year 1912 as a standard, and for the third year we employed the figures for 1913. In other words, the mortality table used was not an arbitrary measure, but exhibited the death rates which persons of the same sex, color and age among our industrial policyholders actually experienced. By throwing these rates into the number of years of life of each group in successive years since recovery we obtained the number of expected deaths for each age period.

In this way we found that in the series of 1428 persons the expected number of deaths was equal to 26.45. As a matter of fact, our record showed 54 actual deaths. The ratio of actual to expected deaths was, therefore, for our entire series, 204 per cent. In other words, more than twice the mortality expected was realized. You will note that the total number of years of life was nearly 3850 years.

A number of persons dropped out, either by death or lapsing policies, during the first, second and third year after recovery. Each such exit from our series involved an adjustment in the number of years of life exposed to risk, by taking the proportionate part of a year from the date of recovery to the date of exit. In this way every day of experience was used. Fortunately, the fullness of the company's record made this much-desired step possible. It would be difficult in many other services to keep such complete control of the whereabouts of the individuals composing a large series. Our conclusion from our own series is, therefore, that during the first three years after recovery from typhoid fever the mortality is twice the normal.

On the basis of the estimated population of continental United States in 1914 we have calculated that each year a minimum of close to 8000 deaths occur which can be attributed to the impairments which fol-

typhoid fever. In this estimate we have assumed a minimal death rate from typhoid fever of 20 per 100,000. We have also assumed the number of cases to be ten times as great as the number of deaths, in accordance with the usual practice. The number of recoveries, therefore, is ten per cent of the cases. For each of the three years following we have assumed an expected death rate for the entire country to be at least 15 per cent from all causes. A calculation of the additional deaths due to typhoid fever gives us a total of 7781. This is the price that we pay annually over and above the registered direct loss from typhoid fever according to the results of our study. It is not only the 20,000 deaths that we have to consider, but the additional 8000 who, after recovering, can not survive the strain which modern industrial civilization requires, and who either because of tubercular or cardiac disease die untimely deaths within the first or the second year after re-

The Prayer of a Rotarian.

BY MARCO MORROW.

I ask the gods, who mold the minds of men
And shape their lives, that I may have two gifts—
No more: I ask for Pride; I ask for Power.
Oh, not the might and vanity of kings,
That I may lord it for a little day;
Nor yet the purse-proud power that comes with gold;
But give, I pray, that power of brain and arm
That I may do each day with joy the work
I find at hand, and act with glad assent
My little part in God's vast scheme of things;
The power to give the world more than I take—
The power to be a MAN!

Let me not be
A mendicant at mankind's busy door,
Beseeching alms, in heaven's name, my lords!

*Oh, I have seen them in the market-place,
Rich merchants clothed in purple, haggling there
Over some tawdry bauble with such greed
They made the very beggars sick with scorn.*

Let me not be a gorging bird o' prey
That gluts upon the carrion of earth—
The crafty man who waits disaster's blow
And pounces on the hapless, hopeless one.
Let me not be the high-born mendicant
Who idly eats Life's bread and drinks Life's wine—
All alms bestowed by Chance or Circumstance.
Let me not be a beggar at Life's board,
But give to me, oh God, the power to serve
My fellows and my age—the power to live,
The power to work, colaborer with Thee!
And give to me that honest pride which scorns
To take more than my honest share—the pride
To give my fellow man more than his due.

The Undefectives.

In the world there has died a baby; eager to part with breath,
He has slipped from the world's hot noises, back to the cool of death.
Sightless and dumb and unhearing, he is done with his days of pain!
—And an eager army has risen, aghast at a baby slain!

Parents, clergymen, doctors—public debate runs wild
Among hundreds of men and women who know the love of a child.

And their right to dispute his sentence, which one of us will gainsay?
But what of the other baby who will die of neglect to-day?

Not a defective baby, shut in a world of his own,
But a conscious child, who is hungry, or sleepy, or cold, or alone.

A whole, sweet, confident baby, a baby with eyes and ears,
Who clings like a little soldier to the scanty hope of the years.

Until, in the cruel summer, or the winter's cold, he goes,
A gallant baby outnumbered by a hundred subtle foes!

Foes in the milk we give him, foes in dirt and disease,
Dangers of street and gutter, and greater dangers than these.

Born of a social system that counts the rent and the wage,
And keeps the heart of a baby shut up like a beast in a cage.

You who have risen in protest, call this a crime if you will!
Or, better, go find a baby; perhaps one is living still

Who will not be here to-morrow, whose battle is nearly done,
Who has lost the unequal struggle for comfort and food and sun.

Bring back this tiny conviction that the world is kind and right,
And that hunger and want and fever are only dreams in the night.

And when he is strong and happy, with his own little place on earth,
Then form your organization to save the deficient at birth.

—Kathleen Norris in the *New York Tribune*.

Of Course.

VACCINATION NO GOOD.

"I don't 'old with this 'ere vaccination, Mrs. Green. What's vaccination done for my little Tommy? Since I 'ad 'im done, 'e's 'ad whooping cough, chicken pox, measles—in fact, everything but smallpox!"—*Punch*.

Grandma Objected Too!

"Grandmaw Pash says there's too much tomfoolery mixed up in the raisin' o' children nowadays. She ought to know; she lost eleven."—*Abe Martin*.

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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VOL. XI.

CONTENTS.

- Morbidity Reports for November, 1915, page 322.
Report of Division of Food and Drugs, page 324.
Cigarettes *versus* Automobiles, page 327.
Electrically Treated Water, page 327.
Singeing the Hair, page 328.
Pollution of Streams by Municipal Sewage, page 330.
Buttermilk and Bacteria, page 331.
A Sick-room Decalogue, page 332.
Secrecy a Crime, page 332.
Cross-eyes, page 333.
"Is it Nothing to You, Ye Who Pass By?" page 334.
An Antidote for Bichloride Poisoning, page 335.
I Remember, page 336.
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Hygiene is humanity's hope.

Are you a hibernator or a ventilator?

Wear your chest protector on your feet.

"Every man must harvest his own wild oats."

"Great epidemics from little sore throats grow."

And anyway Adam and Eve could n't charge it up to heredity.

If you keep your feet warm you are less likely to "catch cold."

Cancer and pellagra are reportable diseases. Physicians,
take notice!

Beware of the narcotic cough cures and soothing syrups.
Many a truthfully written epitaph could tell you why.

"Late hours at night and a spicy breath are often paid for
by long hours in bed and a shortness of breath."—*The Lunger*.

If the leaves on your house plants dry up, turn yellow and
die, you may know your house is overheated and the air too
dry. Ventilate!

MORBIDITY REPORTS FOR NOVEMBER, 1915.

Number of cases reported from each county.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough....	Meningitis.....	Pollagra.....	Polomyelitis.....	Mumps.....	Traehoma.....	Chicken pox.....	Other communicable diseases.....
THE STATE.....	192	692	329	232	164	228	3	2	6	120	11	247	75
Allen.....	3	62	3	3	1	8	1	0	0	0	0	7	2
Anderson.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Atchison, except.....	1	0	3	0	0	0	0	0	0	0	0	0	0
Atchison city.....	3	3	3	0	0	0	0	0	0	0	0	0	0
Barber.....	0	4	0	0	0	0	0	0	0	0	0	0	0
Barton.....	2	9	0	0	0	0	0	0	0	2	0	3	1
Bourbon, except.....	0	3	0	0	4	0	0	0	0	0	0	1	0
Fort Scott.....	1	0	0	0	47	0	0	0	0	0	0	0	1
Brown.....	1	6	0	0	2	7	0	0	0	0	0	0	0
Butler.....	3	8	3	0	0	0	0	0	0	4	1	1	3
Chase.....	0	0	4	0	0	0	0	0	0	4	0	0	2
Chautauqua.....	1	7	1	0	0	0	0	0	0	0	0	0	0
Cherokee.....	4	27	9	0	1	0	0	0	0	0	0	1	0
Cheyenne*.....													
Clark.....	0	0	3	0	0	0	0	0	0	0	0	0	0
Clay.....	1	0	6	0	1	0	0	0	0	0	0	0	1
Cloud.....	1	1	0	0	0	0	0	0	0	0	0	0	0
Coffey.....	0	2	1	0	1	0	0	0	0	0	0	0	0
Comanche*.....													
Cowley.....	4	5	20	0	1	3	0	0	0	0	1	38	1
Crawford, except.....	2	39	0	0	4	0	0	0	0	0	0	4	1
Pittsburg.....	0	6	0	1	0	0	0	0	0	0	0	0	0
Decatur.....	0	0	1	0	0	0	0	0	0	0	0	0	0
Dickinson.....	0	5	1	0	0	0	0	0	0	0	0	2	0
Doniphan.....	0	2	16	0	0	0	0	0	0	0	0	0	2
Douglas.....	2	8	0	1	1	0	0	0	1	0	0	0	0
Edwards.....	0	0	4	0	0	0	0	0	0	0	0	0	0
Elk.....	1	9	1	0	0	0	0	0	0	0	0	0	0
Ellis.....	0	1	1	0	0	0	0	0	0	0	0	0	0
Ellsworth.....	1	14	5	0	0	19	0	0	0	0	0	0	1
Finney*.....													
Ford.....	5	0	3	0	0	0	0	0	2	0	0	0	1
Franklin.....	2	2	0	0	0	1	0	0	0	0	0	0	0
Geary.....	0	2	0	0	0	2	0	0	0	0	0	0	1
Gove.....	1	0	5	59	0	0	0	0	0	0	0	1	0
Graham.....	1	0	0	0	2	0	0	0	0	0	0	0	0
Grant*.....													
Gray.....	2	2	0	7	0	0	0	0	0	0	0	0	0
Greeley*.....													
Greenwood.....	2	4	14	0	0	0	0	0	0	0	0	0	0
Hamilton*.....													
Harper.....	2	5	5	0	0	0	0	0	0	0	0	3	0
Harvey.....	2	0	3	0	0	0	0	0	0	0	0	2	0
Haskell*.....													
Hodgeman.....	1	0	0	0	0	0	0	0	0	0	0	0	0
Jackson.....	0	6	6	0	0	0	1	0	0	0	0	3	0
Jefferson.....	0	6	13	0	0	0	0	0	0	0	0	1	0
Jewell.....	18	0	0	0	0	0	0	0	0	1	0	0	0
Johnson.....	0	0	0	0	0	0	0	0	0	0	0	10	2
Kearny*.....													
Kingman.....	2	11	16	1	0	0	0	0	0	0	0	1	0
Kiowa.....	0	4	0	0	0	4	0	0	0	1	0	1	0
Labetta, except.....	7	14	1	53	0	0	0	0	0	0	0	0	0
Parsons.....	1	26	5	0	0	4	0	0	0	0	0	0	0
Lane.....	0	8	0	0	0	0	0	0	0	0	0	0	0
Leavenworth, except....	2	2	3	0	0	0	0	0	0	0	0	0	0
Leavenworth city.....	1	15	18	0	2	5	0	0	0	0	0	1	0
Lincoln.....	3	0	0	0	20	0	0	0	0	0	0	0	0
Linn.....	2	7	2	1	1	0	0	0	0	0	0	2	0

MORBIDITY REPORTS FOR OCTOBER, 1915.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough....	Meningitis.....	Pellagra.....	Polioomyelitis.....	Mumps.....	Trachoma.....	Chicken pox.....	Other communicable diseases.....
Logan*													1
Lyon.....	1	10	2	0	1	0	0	0	0	0	0	23	0
Marion.....	2	8	0	0	0	0	0	0	0	0	0	0	0
Marshall.....	0	9	0	0	0	0	0	0	0	0	0	0	1
McPherson.....	1	1	2	0	0	1	0	0	0	0	0	0	1
Meade.....	0	0	0	1	0	0	0	0	0	0	0	1	2
Miami.....	26	2	2	0	0	0	0	0	0	0	0	1	1
Mitchell.....	2	1	2	0	2	0	0	0	0	0	0	1	0
Montgomery, except Coffeyville.....	5	21	8	0	0	1	0	0	0	0	0	3	5
Morris.....	1	3	1	0	0	0	0	0	1	0	0	0	2
Morton.....	1	7	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	4	0	0	0	0	0	0	0	0	0	0	0	0
Neosho.....	0	15	9	28	0	0	0	0	0	0	0	5	1
Ness.....	1	1	0	0	0	0	0	0	0	0	0	0	0
Norton.....	1	0	0	0	0	5	0	0	0	0	0	0	6
Osage.....	1	0	1	0	0	0	0	0	0	0	0	2	0
Osborne.....	1	2	1	2	0	0	0	0	0	0	0	1	0
Ottawa.....	1	1	3	0	0	0	0	0	0	0	0	4	0
Pawnee.....	3	0	0	0	0	0	0	0	0	0	0	0	0
Phillips.....	1	16	0	4	0	0	0	0	0	0	0	0	1
Pottawatomie.....	9	0	2	0	0	45	0	0	0	0	0	2	0
Pratt.....	1	14	2	0	1	0	0	0	0	0	0	0	0
Rawlins.....	0	0	0	0	0	4	0	0	0	0	0	1	0
Reno, except Hutchinson.....	3	2	0	0	1	6	0	0	1	0	0	2	0
Republic.....	5	4	2	0	0	1	0	0	0	0	0	6	0
Rice.....	1	5	6	0	0	0	0	0	0	0	0	0	1
Riley.....	0	3	0	0	0	3	0	0	0	1	0	1	0
Rooks*													
Rush.....	0	0	0	0	0	0	0	0	0	0	0	1	0
Russell.....	1	6	11	6	28	1	0	0	0	0	0	3	0
Saline.....	0	0	2	0	0	0	0	0	0	0	0	4	2
Scott*													
Sedgwick, except Wichita.....	3	10	4	3	1	0	0	0	0	0	1	3	1
Seward.....	12	10	20	15	2	10	0	1	0	33	8	29	7
Shawnee, except Topeka.....	0	3	6	0	0	6	0	0	0	0	0	0	0
Stanton*	2	4	2	2	1	25	0	0	0	5	0	0	0
Stevens.....	10	29	11	0	27	17	0	1	0	0	0	35	4
Sheridan*													
Sherman.....	0	0	0	1	0	0	0	0	1	0	0	1	0
Smith.....	0	0	2	3	1	4	0	0	0	3	0	0	0
Stafford.....	1	0	1	1	0	0	0	0	0	0	0	0	0
Stanton*													
Stevens.....	0	0	9	0	0	0	0	0	0	0	0	0	0
Sumner.....	3	20	2	2	1	25	0	0	0	1	0	13	10
Thomas.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Trego.....	0	7	0	0	1	0	0	0	0	0	0	0	0
Wabaunsee.....	0	1	1	0	0	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	0	2	0	0	0
Washington.....	1	0	1	1	0	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Wilson.....	1	33	29	0	1	5	0	0	0	3	0	0	2
Woodson.....	0	2	0	0	0	4	0	0	0	0	0	0	0
Wyandotte, except Kansas City.....	10	80	6	28	5	0	1	0	0	1	0	9	7

*No disease.

Other communicable diseases: Cancer 6, erysipelas 3, pneumonia 38, broncho pneumonia 1, malaria 10, ophthalmia neonatorum 2, septic sore throat 5, gonorrhoea 8, syphilis 1, foot-and-mouth disease 1.

**Report of the Division of Food and Drugs, Kansas State
Board of Health,**

FOR THE MONTHS OF OCTOBER AND NOVEMBER, 1915.

LEON A. CONGDON, B. D., Chief of Division.

During the months of October and November, 1915, the inspectors of this division made 1984 inspections, covering all classes of food and drug establishments. During this period the traveling inspectors have examined 1288 scales, 5602 weights and 701 measures, condemning 29 scales, 320 weights and 1 measure. A considerable number of deteriorated drug products have been condemned in the retail drug stores by our inspectors, also a number of misbranded and deteriorated food products in the retail stores by our food inspectors.

It can hardly be estimated the amount of money saved the consumers of food products in this state by the inspection of the weights and measures in our retail food stores. This one fact more than pays for food and drug inspection in Kansas. The tendency of the times is for efficiency and economy—and this is the economy in the enforcement of the law entrusted to the Board of Health. There is no fee for this weights-and-measures inspection in the retail food and drug stores. It is indeed unfortunate that our inspectors can not inspect the wagon and large scales in Kansas, but there is no appropriation for this kind of work. If you want to do something for the people of Kansas, and especially the farmers, see that the next session of the legislature furnishes the means for the inspection of all heavy-weight scales in the state.

During the months of October and November our analysts have reported upon 359 food products, of which 181 were classed as passed and 78 as illegal. Seventy-three drug products were reported, of which 58 were passed and 15 were illegal. The following table shows the kind of food and drugs reported. (p. 326.)

In commenting on the above table of food and drug reports, the following are the reasons for classing various products illegal: Sample of canned anchovies contained an excessive tin content. Amount and kind of preservative was not stated on one sample of cider; the other sample of so-called cider declared illegal contained a large per cent of alcohol and could

The accompanying table gives the summary of inspections made during the months of October and November, 1915.

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Grocery.....	595	278	37	265	15
Meat market.....	108	55	3	47	3
Bakery.....	74	40	5	27	2
Grocery and meat.....	49	19	4	24	2
Grocery and bakery.....	2	1		1	
Grocery, meat and lunch.....	1	1			
Grocery and lunch.....	3	1		2	
Meat and bakery.....	1			1	
Meat and confectionery.....	1			1	
Bakery and meats.....	1			1	
Drug store.....	290	114	40	126	10
Miscellaneous drug stock.....	7	2		5	
Medicine wagon.....	2	2			
Drug manufacturer.....	3	3			
Tea, coffee and grocery.....	1	1			
Bottling works.....	25	10	7	5	3
Confectionery and candy kitchen.....	23	17	4	2	
Candy manufacturer.....	3	1		2	
Ice-cream factory.....	23	14	6	3	
Extract manufacturer.....	1				
Packinghouse.....	1	1			
Slaughterhouse.....	19	7	1	10	1
Vinegar factory.....	1			1	
Cider mill.....	1			1	
Flour mill.....	4	3		1	
Creamery and poultry.....	1	1			
Linseed-oil works.....	1				
Wholesale grocery.....	5	4		1	
Preserve works.....	1				
Produce.....	6			6	
Poultry and eggs.....	3				
Butter store.....	1			1	
Fountains at cigar stands, news, fruit stands, racket, etc.....	14	6	1	7	
Barber shop.....	1				1
Unclaimed food and drugs freight.....	2				
Special egg investigation.....	3				
Special ice weighed, investigations at Ottawa.....	11				
Special linseed-oil inspections.....	4				
Special gasoline-measuring tanks.....	11				
Trains for inspecting water and ice tanks to see if in separate compartments.....	18	10			8
Hotels.....	183	69	16	93	5
Rooming houses.....	107	64	12	28	3
Restaurants.....	356	207	15	127	7
Restaurants and rooms.....	7	3		4	
Hotels and restaurants.....	7	6			1
Apartment houses.....	3	3			
Totals.....	1,984	943	151	793	61

Per Cent of Sanitation.

(Exclusive of those not classed.)

Per cent good.....	48.40
Per cent good to fair.....	7.75
Per cent fair.....	40.70
Per cent poor.....	3.15

FOOD.					DRUGS.				
KIND OF SAMPLE.	Number of samples.	Passed.	Misbranded.	Adulterated.	KIND OF SAMPLE.	Number of samples.	Passed.	Above stan- dard.	Below stan- dard.
Anchovies.....	1	.....	.....	1	Acid, carbolic.....	2	2	.....	.....
Beverages:					Acid, dilute hydrochloric.....	1	.....	1	.....
Cider.....	3	1	2	.....	Acid, acetylo-salicylic tablets (as declared).....	8	1	.....	7
Ginger ale.....	6	6	.....	.....	Aspirin tables (as declared).....	1	1	.....	.....
Pops.....	44	34	.....	10	Aspirin com. (as declared).....	1	.....	.....	1
Miscellaneous beverages.....	1	1	.....	.....	Anti-dandruff powder (as to claims made).....	1	.....	.....	1
Bread.....	9	.....	9	.....	Crude and powdered drugs, all kinds.....	43	40	.....	3
Candy.....	14	14	.....	.....	Cough syrup.....	1	1	.....	.....
Coffee, (vacuum packed).....	1	1	.....	.....	Lotion.....	1	1	.....	.....
Extracts:					Liquid petrolatum:				
Vanilla.....	2	.....	.....	2	"Petrolene".....	1	1	.....	.....
Vanilla and Tonka.....	1	1	.....	.....	"Russianol".....	1	1	.....	.....
Miscellaneous extracts.....	5	.....	1	4	"Stanolax".....	1	1	.....	.....
Flour, Graham.....	1	1	.....	.....	"Minerol".....	1	1	.....	.....
Fruits:					"Liquid hydroleum".....	1	1	.....	.....
Grape fruit.....	17	.....	17	.....	"Liquid Petrolatum," colorless, "Lilly's Colorless Mineral Oil".....	1	1	.....	.....
Oranges.....	2	2	.....	.....	Oil of sandalwood.....	1	1	.....	.....
Herring (spiced).....	1	.....	.....	1	Phenacetine.....	1	1	.....	.....
Ice cream.....	16	4	.....	12	Sweet spirits nitre.....	1	.....	.....	1
Jelly and jam.....	10	8	.....	2	Spirits of camphor.....	1	1	.....	.....
Lard.....	1	.....	.....	1	"Ward's Russian mineral glye- erin".....	1	.....	.....	1
Milk.....	94	88	.....	6	Wax (bees).....	1	1	.....	.....
Milk (evaporated).....	2	2	.....	.....	Whisky.....	1	1	.....	.....
Pickles.....	1	1	.....	.....	Totals.....	73	58	1	14
Preserves.....	2	2	.....	.....			
Peanuts, raw.....	1	1	.....	.....			
Peanuts, salted.....	1	1	.....	.....			
Rice.....	2	1	.....	1					
Spices:									
Celery seed.....	1	1	.....	.....			
Cloves.....	1	1	.....	.....			
Mustard.....	1	1	.....	.....			
B. mustard.....	1	1	.....	.....			
Mace.....	1	1	.....	.....			
Nutmeg.....	1	1	.....	.....			
Peppers: Capsicum.....	1	1	.....	.....			
Po. Capsicum.....	1	.....	1	.....				
Cayenne.....	8	.....	8	.....				
Red pepper.....	1	1	.....	.....			
Black pepper.....	1	1	.....	.....			
Syrup acid (concen.).....	1	1	.....	.....			
Vinegar.....	1	1	.....	.....			
Wheat.....	1	1	.....	.....			
Totals.....	259	181	38	40					

not be classed as a cider. Most of the samples of pop declared illegal were so declared because of the presence of saccharin, which is prohibited in food and beverages in Kansas. One sample of vanilla extract was suspected of containing prune juice as an adulterant, and another sample declared illegal contained caramel as a coloring agent. The four miscellaneous extracts were declared illegal on account of added artificial coloring matter. The canned spiced herring contained an excessive tin content. Twelve samples of ice cream were illegal because below standard. Two samples of jelly contained added cornstarch. Six samples of milk were substandard. One sample of rice was found to be coated with glucose and talc and was not so labeled. Eight samples of cayenne pepper were de-

clared illegal and misbranded in that they were not the ground form of the small species of red peper, but were manufactured from the large variety of red pepper. The sample of po capsicum was not capsicum or small species of red pepper, but probably a mixture of the large and small varieties. The dilute hydrochloric acid was declared illegal on account of being above standard and not of required U. S. P. standard. Seven samples of acetylo-salicylic acid tablets were adulterated, in that acetanilid was substituted for the acetylo-salicylic acid. The antidandruff powder was misbranded in that the claims were not exactly true in that it was an "absolutely new produce," etc. One sample of aspirin was found below the standard as claimed on the label. The spirits of nitre was below the required standard.

Cigarettes versus Automobiles.

The Cadillac Motor Car Company has posted throughout its factories the following notice:

"Cigarette smoking is acquiring a hold on a great many boys in our community. The habit has grown in the last year or two. Since it is such a bad practice and is taking such a hold upon so many people, we think it is a disgrace for a grown man to smoke cigarettes, because it is not only injurious to his health, but it is such a bad example to the boys. Boys who smoke cigarettes we do not care to keep in our employ. In the future we will not hire any one whom we know to be addicted to this habit. It is our desire to weed it entirely out of the factory just as soon as practicable. We will ask every one in our factory who sees the seriousness of this habit to use his influence in having it stamped out. We have two objects in interesting ourselves in this matter: first, to help men and boys; second, we believe that men who do not smoke cigarettes or frequent the saloon can make better automobiles than those that do."

—*North Carolina Health Bulletin, August.*

Electrically Treated Water.

At the present time there are several electrolytic devices on the market for the purification of water in the household.

The sales agents state that these machines will kill all the bacterial life present and remove the mineral matter from solution. These statements are false. The demonstrators of these machines attach them to the ordinary electric light fixtures and turn on the current. There immediately appears in the water a heavy white precipitate which is said, by those in-

terested, to be the mineral matter contained in solution in the water.

This statement is not true, as the precipitate is largely caused by the decomposition of the aluminum electrode. There is no bacterial efficiency due to the electricity. The only virtue of these devices depends upon the fact that this precipitate, which is caused by the wasting away of the aluminum plates, will entangle the bacteria so that they will settle out to the bottom of the vessel in which the water is contained. It is a fact that the results will not be uniform, and in many instances the water will be worse than when introduced into the machine.

The average water in the state of Kansas contains about .05 per cent of mineral matter in solution, and we have seen demonstrators of these electrolytic water-purifying machines recover as high as 10 per cent by volume of solid material. Of course this visual demonstration will attract the eye of those who do not understand the principle of operation.

If these machines were operated in conjunction with some well-designed mechanical filter they would be entirely satisfactory as a preliminary method of purification before filtration, but as a complete process they have no virtue and should not be sold. Even as a preliminary method of purification, the expense would be entirely too great to make the device practicable.

C. C. YOUNG,

Director Water and Sewage Laboratories.

Singeing the Hair.

The reams of paper that are used up each month in articles in the daily papers—and weekly and monthly papers—on beauty culture are conclusive evidence that it is as natural for man to desire to beautify the person as it is “to indulge in the illusions of hope.” A sound mind in a sound body suffices the serious-minded minority, but apparently the innumerable majority, if they had their way, would have a comely body and take their chances on any old kind of a mind, on the principle that it is better to be good-looking than wise, because more people have sight than understanding. To decorate and beautify the body is an inborn passion; the savage does it differently from us, but when it comes to the many manipulations

and remedies that are recommended for avoiding wrinkles, giving the eyebrows an aristocratic arch, coaxing the lashes to be long and languorous, making the ears pink and small or the nose straight and thin, removing a double chin or taking the core out of the Adam's apple, we have nothing on our uncivilized and supposedly more ignorant brothers. The hair, in particular, is the object of all mankind's cosmetic endeavors. When it comes to civilized man he is universally engaged in trying to save what he has left or regrow what he has lost. Women, with few exceptions, do not become bald, but all women, in their opinions, are threatened with that unspeakable calamity; men not only may get bald, but a large number of them are already so. And thus the popular remedies for the hair need almost a surgeon-general's catalogue. Vibratory and electrical treatments, hair tonics that feed the hair roots, as though they grew out of the scalp like broom sedge out of an old field, neat's-foot oil and crude kerosene, massage and mange cures, all have their futile trials. Among these our particular topic now is singeing the hair. This is recommended to overcome splitting at the ends and to prevent falling of the hair, the reason for the latter being that it "closes the pores and keeps the fluid in the hair." With the long hair of a woman, which has a tendency to split at the ends, it is possible that singeing the tips may be of some use; it substitutes a charred, blunt end of fused horn for one tapering to a point or cut clean across. But even in cases of this sort it is less useful than greasing lightly the hair and thus supplying the fat which is lacking in such hair. For the hair of men, which is kept short, singeing is not of any use in preventing splitting; hair which is not allowed to grow to its natural length does not split, unless it has a deep-seated disturbance for which there is no such simple remedy. Of course, singeing the hair ends in order to prevent the fluid in the hair from escaping, like sap from a tree, is based on an entire misconception of the hair's structure and nutrition. The hair does not contain any more sap than a buggy whip; it is not nourished by any fluid in it, but by the blood plasma, that reaches only the hair roots. The hair above the skin surface is a spine of horn, which is even oiled from without, and singeing its tips has no effect whatever on either its nourishment or its growth. It is certain, says *The Journal of the American Medical Association*, that singeing the hair is of no value in prevent-

ing its fall; in fact, the only value the procedure has is to the zealous hairdresser who gets his little fee for doing it—unless it is worth a quarter to the seeker after hair to think he is doing something, even if he is not.

Pollution of Streams by Municipal Sewage.

DAMAGES AWARDED AGAINST A CITY BECAUSE OF THE POLLUTION OF A STREAM BY ITS WASTES.

The city of Henderson, Ky., discharged its sewage into a small stream called Canoe creek. The slop from a distillery, which was for some time discharged with the city sewage, settled to the bottom of the creek and decomposed, killing the fish, making the water unfit for drinking by stock, and creating a stench. Owners of property along the bank of the stream brought suit against the city and the operator of the distillery for damages to their property.

The court of appeals of Kentucky decided that the city was liable, but relieved the operator of the distillery, holding that, as the city had permitted the distillery to connect with the city sewers and had made no attempt to regulate the character of matter discharged from the distillery into the sewers, the city was responsible for the damage done.

The essential part of the opinion follows:

Kraver et al. v. Smith, 177 S. W. Rep. 286. (May 14, 1915.)

The owner of land along a natural watercourse is entitled to the natural flow of the water unimpaired in quality except as may be occasioned by reasonable use of the stream by others.

Pollution of a stream by sewage, causing illness and rendering the water unfit for stock and other purposes, is a nuisance, for which damages may be recovered against a city.

The fact that sewage has been discharged into a certain stream for a long time does not justify continuance of the practice when a nuisance is created.

A city has the power to control and regulate its drains and sewers, and a property owner has no right to connect a private sewer with the city sewer without the consent of the municipality. The city also has authority to regulate the character of the sewage which any property owner may discharge into the city sewer, but where a property owner is allowed to make connection with a city sewer and no attempt is made to regulate the character of matter discharged into the sewers, the city is liable for damages caused by the discharge of matter from the city sewers into a stream, creating a nuisance.

—U. S. Public Health Reports.

Buttermilk and Bacteria.

The popularity of buttermilk as a food and a beverage is attested by its widespread sale. Any drink which can succeed in invading the precincts of the saloon and compete for sale, as buttermilk now does, side by side with alcoholic beverages, deserves attention. The plan of allowing milk to undergo fermentation of such a character that the products are not unpleasant or unwholesome for human consumption, yet serve as preservatives to prevent undesirable types of decomposition, is not new. The fermentation product chiefly depended on in such cases is lactic acid, although, in certain types, alcoholic fermentation may also be in evidence. Buttermilk belongs to the acid type; it usually contains from .6 to .9 per cent of acid. Strictly speaking, buttermilk is a by-product of butter-making; but with the development of the milk industries the demand for buttermilk has frequently been met by fermenting the skim or separator milk which remains as a by-product of the cream trade. The fermented product is not literally buttermilk, but it may be indistinguishable from the latter in composition and properties. The use of these fermented milk products has been favored, not alone for their intrinsic food value, but also for accessory reasons. The specific fermentation products have been reputed to have a "tonic" action in the digestive tract. Special virtues have been attributed to the lactic-acid bacteria, particularly in relation to putrefactive changes in the alimentary tract. Aside from any alleged therapeutic virtues, there can be no doubt of the nutrient value of the beverages. With the growing attention devoted to the bacteria which milk may harbor, and the recognition of the dangers which they may entail, it is not strange that buttermilk also should demand bacteriologic consideration. Heinemann, of the department of bacteriology and hygiene at the University of Chicago, has demonstrated that the presence of lactic acid in milk will destroy the germs of dysentery, typhoid, diphtheria and cholera. The slower milk sours the greater is the danger of disease germs surviving. Acids other than lactic acid are frequently present in buttermilk. This beverage, Heinemann reminds us, should therefore be looked on with suspicion, especially if heavily polluted, unless it has been prepared from pasteurized

milk. There is, however, says *The Journal of the American Medical Association*, a remnant of satisfaction to all lovers of the fermented product to learn that the chances of buttermilk becoming a carrier of infection are small.

A Sick-room Decalogue.

The following commandments for the management of the sick-room should be read, marked, learned, and inwardly digested by all nurses:

1. Thou shalt remove surplus rugs, furniture, etc., and make room for thy work.

2. Thou shalt maintain perfect ventilation without drafts.

3. Thou shalt keep the patient clean and quiet.

4. Thou shalt foresee the needs of thy patient. Don't let them ask for everything.

5. Thou shalt promptly remove and burn all sputum, and thoroughly disinfect all culinary utensils and vessels used by the patient.

6. Thou shalt restrict visiting, loud talking, and above all whispering in the sick chamber.

7. Thou shalt not ask the sick what they want to eat; rather say: "I have prepared something dainty, and want you to eat it."

8. Thou shalt not annoy the sick by telling thy troubles, sad experiences, and all thou knowest.

9. Thou shalt let in the sunshine and try to be a sunbeam thyself.

10. Thou shalt remember that the tenth commandment is to mind thine own business, follow directions faithfully, cheerfully and promptly, and the sick will arise and call thee blessed.—*Practitioner*.

Secrecy a Crime.

HOW SECRECY WITH CONSUMPTIVES ABOUT THEIR DISEASE FOOLS THEM INTO AN EARLY GRAVE.—A LETTER TO THE POINT.

The worst thing you can do for a consumptive is to keep him from knowing that he is a consumptive. We used to think that telling folks the truth about themselves when they had consumption would scare them to death. Somehow some of them found it out in spite of us, and instead of being scared

to death they set about taking the cure and got well. Most of those we did n't tell found it out too late, or aggravated their cases through ignorance, and landed in consumptives' graves in a short time.

The State Board of Health is in receipt of a letter from a gentleman regarding one of his associates who is known to be a consumptive. The consumptive's family and friends are aware of his condition and are afraid of him. They are also afraid to tell the consumptive lest it might scare him to death; yet they are letting him go about his daily work unwarned. The consumptive is an ambitious, hardworking fellow, and as such it is almost certain that he will end in a consumptive's grave in a comparatively short time, or, what is still worse, learn of his sad plight when it is too late and have none but his friends to blame for letting him drift into such a condition unwarned.

Furthermore, a consumptive who does not know that he is a consumptive is a menace to others and a really dangerous person to be around. On the other hand, a careful consumptive is a safe person with whom to live.

The first thing to do in a suspected case of consumption is to find out whether or not it is consumption. If it is, there is no time to lose. If you want to get well your chances are good if you begin early, but your chances are slim if you wait.—*North Carolina Bulletin.*

Cross-eyes.

One of the most conspicuous and annoying conditions that may occur in the eyes of a young child is squint, or what is commonly known as "cross-eyes." It occurs chiefly between the ages of two and six, and comes on gradually at first, showing some slight turning inward in one eye, at times, until finally something occurs to precipitate a definite attack, and the eye turns in to a greater or less degree and remains so. Frequently a convulsion or an attack of coughing, especially during whooping cough or some like irritation to the general nervous system, brings on the attack, and is considered by the child's mother to be the cause. This is incorrect. When the eye is turned it will not look directly at the object at which the other eye is looking, and doubling of the vision is the result.

This "double vision" is very annoying, as any one may judge for himself by slightly pressing one eye out of position with the fingers. In order to escape this annoyance the child unconsciously stops using the eye that is turned in, and this in time leads to changes in the nerve tissues which make the child's sight defective in that eye. Formerly many physicians advised parents to wait until the child grew older before having anything done to the eye, feeling that an operation was the only thing to relieve the condition, or that the child might "outgrow it." This, in the light of our present knowledge, is bad advice. By the time the child gets to be eight or ten years old the sight in the eye is defective from disuse and can not be restored, and this failure of vision has usually occurred, even though the eye has straightened itself spontaneously. It is very important, therefore, not to allow the child to stop using the squinting or turning eye. It is not always necessary to operate. Usually glasses have to be worn to stop the strain, and there are other forms of treatment which are many times effective. If these means fail and the eye continues to turn, an operation may have to be done to keep the eye straight and to save the sight in that eye. But not more than half, perhaps even less, will require operation. Fortunately, treatment is much more judiciously given and often is more successful now than it used to be, and the present generation of children will probably not show so frequently the defects caused by neglected "cross-eyes."

"Is it Nothing to You, Ye Who Pass By?"

JULIA GARDNER WHITLOCK, in *The Survey*.

The claw-like hands and the faces gray,
The look of the old in the dull young eyes,
The burdens grim of an endless day
Where the play is lost, and the laughter dies.

On the Cross the Saviour stirs and sighs.

The painted lips and the dragged lace,
The mocking smile and the features drawn;
The death of the woman power and grace—
Prey of the greed and the lust and the scorn.

Deeper presses the Crown of Thorn.

The lack and the loss and the toil and the strain,
The crowded room and the darkened street—
The lawless life—and the gnawing pain
Of the ward and the cell and the wrong complete.

Fast drops the blood from His hands and feet.

An Antidote for Bichloride Poisoning.

In a recent issue of a prominent medical journal the statement is made that mercuric chloride poisoning can be treated by the use of sodium phosphate with excess of sodium bicarbonate. Thus, editorially, the journal says: "This solution, it is claimed, instantly converts the bichloride to the mild chloride, which can be removed by a dose of castor oil. It is very necessary that the sodium phosphate shall be chemically pure." Attention should therefore again be called to the fact, says *The Journal of the American Medical Association*, that the names "sodium phosphate" and "sodium phosphite" are so similar that a serious error can be made by the misprinting or misinterpretation of a single letter. Sodium phosphite has been suggested as an antidote to mercuric chloride because it acts as a reducing agent to convert mercuric chloride into calomel—mercurous chloride—while the phosphite is changed to phosphate. Sodium phosphate will have no such action on mercuric chloride, because it is already as highly oxidized as possible.

Lyndon, Kan., with a population of 808, has a complete sewerage system, with sewage treatment plant; a modern water system, rapid sand-filter purification, with reserve storage for 18 months—both systems covering the entire city; a city library; a city park; a white way; an all-purpose fountain, where man, beast and auto can be watered; and clean streets and alleys. We claim it to be the model city of its size in America. Who can beat it?

I Remember.

I remember, I remember the house where I was born, the little window where the sun came peeping in at morn. You'd hardly know the old place now, for Dad is up-to-date and the farm is scientific, from the back lot to the gate. The house and barn are lighted with acetyline, the engine in the laundry is run by gasoline; we have silos, we have autos, we have dynamos and things, a telephone for gossip and a phonograph that sings. The hired man has left us—we miss his homely face—a lot of college graduates are working in his place. There's an engineer and fireman, a chauffeur and a vet., 'lectrician and mechanic. Oh, the farm's run right, you bet. The little window where the sun came peeping in at morn now brightens up a bathroom that cost Dad a car of corn. Our milk maid is pneumatic, and she's sanitary, too, but Dad gets fifteen cents a quart for milk that once brought two. Our cattle came from Jersey and the hogs are all Duroc, the sheep are Southdown beauties, and the chickens Plymouth Rock. To have the best of everything that is our aim and plan, for Dad not only farms it, but he's a business man.—*E. F. McIntyre.*



BULLETIN

OF THE

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S. J. CRUMBINE, M. D., Editor.

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VOL. XII

CONTENTS.

Morbidity Reports for December, 1915, page 2.

Report of the Division of Food and Drugs for December, 1915, page 4.

Drug Analyses LIII, page 8.

"Howdy," 1916!

Keep the body sewers open.

The season's dangers—last night's air!

It is not necessary to pasteurize the milk of human kindness.

"Most people's mouths are long on talk and short on mill work."

The U. S. census reports show Kansas' death rate to be the lowest of any state in the registration area.

It is not only illegal to sell filthy or decomposed animal or vegetable substances, but it is also ungodly and unclean.

Those "who wait upon the Lord shall renew their strength" is another way of saying that "righteous" living is right living, which must necessarily be in accord with nature's laws, the laws of health.

The superintendent of the State Sanatorium for Tuberculosis at Norton reports that the helpers and laborers at the Sanatorium, who sleep indoors, all contracted the influenza, which is so widely prevalent over the country, but that not a single patient in the institution contracted the disease. They were all sleeping outdoors. We don't believe this "just happened." "There's a reason!"

MORBIDITY REPORTS FOR DECEMBER, 1915.

COUNTY.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough....	Meningitis.....	Pellagra.....	Poliomyelitis.....	Mumps.....	Typhoons.....	Chicken pox.....	Other communicable diseases.....
Logan.....	1	0	2	0	0	0	0	0	0	0	0	0	0
Lyon.....	1	3	1	1	0	0	0	0	0	0	0	1	4
Marion.....	0	12	1	0	0	3	0	0	0	0	0	2	2
Marshall.....	2	2	0	0	2	2	1	0	0	0	0	1	3
McPherson.....	1	2	0	0	0	8	0	0	0	0	0	4	4
Meade.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Miami.....	3	4	0	0	0	1	0	0	0	0	0	13	1
Mitchell.....	1	7	2	0	1	0	0	0	0	0	0	5	0
Montgomery, except Coffeyville.....	12	26	7	2	0	5	0	0	0	0	0	12	18
Morris.....	2	12	0	0	1	1	0	0	0	0	0	1	9
Morton.....	3	0	0	0	0	1	0	0	0	0	0	3	1
Morton.....	0	3	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	3	1	0	1	2	3	0	0	0	0	0	0	14
Nesaho.....	2	18	18	21	0	3	0	0	0	0	0	0	16
Ness.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Norton.....	1	2	0	1	26	0	0	0	0	0	0	0	6
Osage.....	4	1	0	2	0	0	0	0	0	0	0	4	6
Osborne.....	0	4	0	3	0	0	0	0	0	0	0	0	6
Ottawa.....	0	0	0	0	11	0	0	0	0	0	0	0	7
Pawnee.....	1	1	0	0	0	0	0	0	0	0	0	0	2
Phillips.....	0	12	4	0	3	1	0	0	0	0	0	6	5
Pettawatomie.....	0	1	10	0	0	6	0	0	0	0	0	5	3
Pratt.....	1	6	3	1	0	0	1	0	0	0	0	0	0
Rawlins.....	0	0	14	0	7	45	0	0	0	0	0	0	4
Reno, except Hutchinson.....	3	1	0	0	1	3	0	0	0	0	0	5	4
Republic.....	6	3	1	2	0	0	0	0	1	0	0	14	5
Rapahide.....	1	1	0	10	0	4	0	0	0	0	0	2	0
Rice.....	0	2	0	0	3	0	0	0	0	0	0	2	3
Riley.....	1	1	0	0	1	4	0	0	0	0	0	14	15
Rooks.....	1	0	5	106	0	1	0	0	0	0	0	0	1
Rush.....	0	0	0	0	0	0	0	0	0	0	0	0	4
Russell.....	1	1	6	0	1	0	0	0	0	0	0	0	1
Saline.....	0	8	1	0	2	0	0	0	1	0	0	0	12
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	2	1	5	2	0	3	0	0	0	0	0	3	4
Seward.....	4	7	6	41	4	3	0	0	0	0	0	11	49
Seward.....	0	0	4	0	0	12	0	0	0	0	0	0	0
Shawnee, except Topeka.....	1	1	1	0	0	8	0	1	0	0	1	0	0
Sheridan.....	1	14	10	0	13	7	0	1	0	0	0	12	8
Sherman.....	1	0	1	0	0	0	0	0	0	0	0	0	0
Sherman.....	0	0	0	1	0	1	0	0	0	0	0	0	0
Smith.....	2	1	2	0	5	2	0	0	0	0	0	1	0
Stafford.....	1	2	6	6	0	3	0	0	0	0	0	2	2
Stanton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Stevens.....	0	0	4	0	0	0	0	0	0	0	0	0	0
Sumner.....	2	7	1	6	6	35	0	0	0	1	1	24	32
Thomas.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Trego.....	0	0	0	0	13	0	0	0	0	0	0	0	3
Wabaunsee.....	0	0	3	0	3	0	0	0	0	0	0	0	2
Wallace.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington.....	0	0	1	13	0	2	0	0	0	0	0	3	0
Wichita.....	0	0	2	0	0	2	0	0	0	0	0	0	0
Wilson.....	1	6	4	0	3	8	0	0	0	0	0	0	12
Woodson.....	0	3	7	0	1	5	0	0	0	0	0	0	0
Wyandotte, except Kansas City.....	0	16	2	0	0	0	0	0	0	0	0	0	3
Kansas City.....	7	34	15	17	2	1	2	0	0	0	0	5	13

Other communicable diseases: Malaria 150, pneumonia 411, cancer 24, tetanus 4, septic sore throat 11, syphilis 11, erysipelas 6, septicemia 1, rabies 1, gonorrhea 2, chronic lead poisoning 3, influenza 1, ophthalmia neonatorum 3.

**Report of the Division of Food and Drugs, Kansas State
Board of Health,**

FOR THE MONTH OF DECEMBER, 1915.

LEON A. CONGDON, B. S., Chief of Division.

During the month of December, 1915, the traveling inspectors of this division inspected 1079 places in various parts of the state. They have examined 758 scales, 2185 weights and 484 measures, and have condemned 5 scales and 42 weights. Forty-four clean-up and other written orders were issued during the month by the inspectors.

During the latter part of this month a survey of the food and drug establishments of Topeka was begun. One food and one drug inspector were detailed to this work. It is the aim of this survey to inspect the sanitary condition of the stores of this particular city because many merchants were prone, through carelessness, to neglect to keep their places of business in a proper sanitary manner. This survey will be completed sometime during the month of January, and a report will be issued, together with many suggestions for the improvement of conditions. This division, with its three traveling state food and two traveling state drug inspectors, can not be expected to parole all first-class cities in Kansas every month, and it is thought advisable to suggest that a competent local deputy state food inspector be appointed in all cities having a population of 5000 or above. The expense of such local inspectors should be borne by the cities themselves. In order to eliminate jealousies and political influence an examination should be held under the direction of competent and disinterested parties. Our state inspectors would then be in a position to cover greater territory and check more closely the inspection of our larger cities.

The "swells" declared illegal were found, as most always, to contain an excessive tin content. Eight samples of canned sweet potatoes were found to be either unfit for food by microscopical methods or high in tin content by chemical methods, and were likewise classed as illegal. Three samples of dried apples were illegal in that this shipment contained an excessive moisture or water content. The illegal shipment of boneless salt fish was so classed in that the brown specks on

the fish, or so-called "freckles," were brown mold; the fish also showed red streaks caused by coccus. Ten illegal samples of grape fruit were so classed on account of being immature. The pancake flour was found by our analyst to contain live larvæ, dead larvæ, pieces of larvæ and beetles, dead beetles, which would class such product as illegal in that it consists in part of a putrid substance. Two samples of vinegar were found to be illegal in that they were substandard.

The following table gives the summary of the inspections made during the month of December, 1915:

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Grocery.....	379	231	43	104	1
Meat market.....	76	53	4	19	.....
Bakery.....	56	24	14	13	5
Grocery and meat.....	27	9	2	15	1
Grocery, meat and bakery.....	1	1	.....	.....	.....
Grocery and bakery.....	1	1	.....	.....	.....
Drug stores.....	150	39	22	87	2
Miscellaneous drug stocks at general stores.....	8	6	.....	2	.....
Doctor's dispensary.....	2	2	.....	.....	.....
Medicine wagon.....	1	1	.....	.....	.....
Slaughterhouse.....	11	5	3	3	.....
Confectionery.....	12	9	2	1	.....
Fountain at pool hall, racket, news stand, etc.....	7	4	.....	3	.....
Coffee and tea.....	1	.....	.....	1	.....
Flour mill.....	5	2	.....	3	.....
Poultry and eggs.....	5	5	.....	.....	.....
Bottling works.....	2	1	1	.....	.....
Beverages.....	1	1	.....	.....	.....
Ice cream factory.....	3	1	1	1	.....
Meat peddlers.....	2	.....	.....	2	.....
Creamery.....	1	1	.....	.....	.....
Produce.....	1	1	.....	.....	.....
Cooperative company.....	1	1	.....	.....	.....
Seed and feed.....	1	1	.....	.....	.....
Coal weighing.....	3	.....	.....	.....	.....
Hotel.....	80	27	5	47	1
Restaurant.....	210	123	20	56	11
Rooming houses.....	22	4	1	14	3
Hotel and restaurant.....	7	3	.....	3	1
Rooms and restaurant.....	1	1	.....	.....	.....
Apartment house.....	2	1	.....	1	.....
Totals.....	1,079	558	118	375	25

Per Cent Sanitation.

(Exclusive of those not classed.)

Per cent good	51.86
Per cent good to fair	10.97
Per cent fair	34.85
Per cent poor	2.32

Two samples of carbolic acid were not passed in that they contained glycerine and were not the official strength. The powdered and tablet acid acetylo-salicylic were adulterated in

that they contained acetanilid, which was substituted for the supposedly principal ingredient, namely acetyl salicylic acid. One sample of the acetlyo-salicylic acid tablets was illegal in that it was below standard as declared. A sample of raw linseed oil was found by our analyst to contain mineral oil. The "Smoke Flavor" was illegal in that it contained wood alcohol, which can not be used in food products or flavors. Five samples of various proprietary medicines were classed by this department as questionable as to claims made for them on wrapper and advertising material attached to same. Perhaps no greater misleading statement is found than upon some of these so-called remedies for all aches and pains. For illustration, the preparation called "Tanlac," according to Professor Watson's report on this sample, contains a small amount of reducing sugar; no added sugar; nonvolatile matter at 100°; 11.49 per cent (mostly glycerine) glycyrrhiza present; emodin present; responds to tests for rhubarb; contains 16.7 per cent alcohol by volume; slightly alkaloidal; responds to some of the tests for berberine, but is not berberine; shows evidence of containing gentian. The tablets accompanying this liquid preparation contain phenolphthalein. Deducting from analysis of this preparation, it appears to this department to be a preparation containing 16.7 per cent alcohol; glycerine; licorice; rhubarb; gentian; and is slightly alkaloidal, due to a substance similar to berberine. The tablets contain a laxative called phenolphthalein. The Cooper Medicine Company, Dayton, Ohio, states on the label as follows: "Tanlac, 18 per cent alcohol by volume. Net weight, 8 ounces. A splendid tonic and system purifier. A treatment prepared by the combination of roots, barks and herbs gathered in various countries of the globe and blended to produce the best results. price, \$1.00. . . . Contains no minerals." This statement is misleading in that according to our analyst's report the residue left after evaporation contains mostly glycerin, which is in a practical sense not vegetable but of animal origin, glycerin being one of the by-products of the soap industry. On the circular accompanying "Tanlac" it says: "It is made from extracts of roots gathered from the forests and fields of nature," which statement, as pointed out above, is again misleading.

The following table gives the summary of food and drug analyses reported to this division for the month of December, 1915:

FOODS.					DRUGS.				
KIND OF SAMPLE.	Samples analyzed.	Passed.....	Illegal.....	Question-able.....	KIND OF SAMPLE.	Samples analyzed.	Passed.....	Illegal.....	Question-able.....
Beverage.....	2	1	.....	1	Acid, carbolic.....	2	.....	2	.....
Candy.....	13	6	.....	7	Acid, acetylo-salicylic, tablets....	3	.....	3	.....
Canned goods:					Acid, acetylo-salicylic, powder....	1	.....	1	.....
Miscellaneous fruit and vege-					Elixir of heroin and terpine				
tables.....	15	15	.....	.....	hydrate.....	1	1	.....	.....
"Swells".....	4	.....	4	.....	Crude drugs:				
Sweet potatoes.....	8	.....	8	.....	Senna.....	2	2	.....	.....
Dried apples.....	3	.....	3	.....	Jamaica ginger.....	1	.....	.....	.....
Extracts:					Lined oil, raw.....	2	1	1	.....
Extract of terpeneless lemon....	1	1	.....	.....	Wright's smoke flavor.....	1	.....	1	.....
Extract of vanilla and tonka....	1	1	.....	.....	Proprietaries:				
Miscellaneous extracts.....	5	.....	.....	5	Sennatoria.....	1	.....	.....	1
Fish:					Tanlac.....	1	.....	.....	1
Boneless salt fish.....	1	.....	1	.....	To-Ho-Ya Oil.....	1	.....	.....	1
Tuna fish.....	1	1	.....	.....	XIX Penetrating Oil.....	1	.....	.....	1
Ginger beer.....	1	.....	.....	1	Wahoo Compound.....	1	.....	.....	1
Ginger syrup.....	1	.....	.....	1	Total.....	18	4	8	6
Grape fruit.....	12	2	10	.....				
Honey.....	5	5	.....	.....			
Ice cream.....	3	3	.....	.....			
Nuts, unshelled almonds.....	1	1	.....	.....			
Pancake flour.....	1	.....	1	1					
Rice.....	2	.....	.....	2					
Vinegar.....	3	1	2	.....				
Total.....	83	37	29	17					

"XIX Penetrating Oil," prepared by the Cardinal Drug Company, Muskogee, Okla., is another preparation classed as questionable. The label states: "The great external remedy for aches and pains, deafness, rheumatism, neuralgia, sciatica, lame back, lumbago, pain in the side, pain in the back, etc." Price, 50 cents. Our analyst reports that it contained benzol, oil mustard (volatile) and oil sassafras.

"Wahoo Compound"—Dr. Snyder's remedies, Dr. Snyder, Pittsburg, Kan.—as reported upon by our analyst, contained: Methyl salicylate present; emodin present; solids per 100 cc., 1.084 gm.; golden seal absent, or if present is in very minute quantity. An aqueous preparation, declared to contain nine different drugs. It contains less solid matter per 100 cc. than the average tincture. Chloroform extract from 50 cc. of preparation shows no presence of golden seal.

One preparation put out by the Cardinal Drug Company, Muskogee, Okla., was classed as questionable by this department because of certain claims for them. "XIX Blood Purifier" contained, according to our analyst's report, as follows: Specific gravity, 1.1633; colored with cochineal; contained 0.187

gm. quinine sulphate per 100 cc.; magnesium sulphate (anhydrous) equals 21 grains per 100 cc.

"To-Ha-Ya, The Geat Tonic," put out by the Arlington Drug Company, Oklahoma City, Okla., according to the analyst's report, was as follows: Specific gravity, 1.1564; artificially colored; contained 0.1119 gm. quinine sulphate per 100 cc.; contained 0.2737 gm. sodium salicylate per 100 cc.; contained 41.49 gm. magnesium sulphate per 100 cc. (hydrons) or 20.26 gm. (anhydrons) "To-Ha-Ya-Oil," put out by this same company, claimed to be "The great external remedy for all aches and pains," including "deafness," was reported by our analyst to be, "benzol present; mustard oil (volatile) present."

The following drug analysis LIII, from our University drug laboratory, is hereby transmitted with this report.

Drug Analyses LIII.

L. E. SAYRE, Director; L. D. HAVENHILL, Chief; G. N. WATSON, Analyst;
O. M. STERLING, Microscopist.

The crude drugs included in the present report came to the laboratory rather as a surprise, as it is the custom to send only suspicious material to the laboratory for examination. Still, an examination of such a stock may be a satisfaction to the dealer, as well as the public, and worth to him all it costs the state for the examination. The examination has been some advantage, however, to the laboratory, as it has been obliged to equip itself with facilities for meeting such a large order, which was no small drain upon its resources.

ASPIRIN AND ACETYL SALICYLIC ACID TABLETS, ETC. The present report includes a number of acetyl salicylic acid sent into the laboratory for examination. This examination shows what the United States Department of Agriculture has called attention to. Probably owing to the scarcity of aspirin and the high price of the same, these, as well as the aspirin, have been adulterated. There is a great temptation to do this at this time, but the detection of such adulterations is so simple and so well organized that it would be very hazardous for any one to make any attempts along this line. The samples that were received in our laboratory correspond with the examinations that have been made by the United States government, showing, in some cases, the mixture to be acetanilid, salicylic

acid, sugar, starch and inorganic salts. It would be well for all druggists to be on their guard in the purchase of such products, and we suggest that the following tests be applied:

Make a solution of the suspected substance, alkaline with sodium hydroxide, apply heat, and then make neutral with hydrochloric acid and test with a few drops of ferric chloride, which, with aspirin or salicylic acid, gives a violet color. Also test for ethyl acetate by the usual method of the U. S. P., on page 395, and if these tests do not satisfactorily respond it is well to send sample to the drug laboratory, or to the state drug inspector, who will forward it to the laboratory.

CAYENNE, CAPSICUM AND RED PEPPER. It is important to know that there is no standard for red pepper except that it is the dried ripe fruit of any species of *Capsicum*.

We consider cayenne pepper to be the same as capsicum, the standard for which is given in the Kansas Food and Drugs Standards, January, 1914. It should be stated that the size and arrangement of the epidermal cells is indicative of genuine capsicum, and on this data the sample No. 21,451 has been estimated as "not capsicum."

Lab. No. 6751, Insp. No. 100105. " $\frac{1}{100}$ Gr. Nitroglycerin Tablets." Direct Sales Company, Buffalo, N. Y. New stock. Contained .0098 gr. nitroglycerin per tablet. Passed.

Lab. No. 6765, Insp. No. 21359. "Oil of Wintergreen." N. G. Edelbert, Topeka. Specific gravity, 1.1747. Responds to reactions for oil of wintergreen. Passed.

Lab. No. 6767, Insp. No. 21361. "Jamaica Ginger." D. G. Hamilton, Norton. Specific gravity, .8168; per cent of alcohol, 91.82; total solids per 100 cc., .1315 gm. Adulterated.

Lab. No. 6806, Insp. No. 21441. "Spirit of Camphor." Plains' Pharmacy, Plains. Contained 9.99 per cent camphor. Passed.

Lab. No. 6808, Insp. No. 21443. "Sweet Spirit of Nitre." G. E. Martin, Cullison. Contained 2.02 per cent ethyl nitrite. Adulterated.

Lab. No. 6812, Insp. No. 21450. "Powdered Rhubarb." Fred Weesner, Hutchinson. Examined microscopically. Passed.

Lab. No. 6814, Insp. No. 21452. "Oil Santalwood." C. E. Sidlingers, Hutchinson. Optical rotation, 16.11; specific gravity, .9751; soluble in U. S. P. alcohol; soluble in 5 volumes 70 per cent alcohol; contained 95.55 per cent santalol. Passed.

Lab. No. 6821, Insp. No. 80806. "Powdered Licorice." Wherritt-Mize Drug Company, Atchison. Examined microscopically. Passed.

Lab. No. 6822, Insp. 80807. "Powdered Mustard." Wherritt-Mize Drug Co., Atchison. Nonvolatile petroleum ether extract, 15.33 per cent; ash, 5.92 per cent; moisture, 8.83 per cent; no charcoal, no foreign starch. Passed.

Lab. No. 6823, Insp. No. 80808. "Althea." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6824, Insp. No. 80809. "Mandrake." Wherritt-Mize Drug Co., Atchison. No foreign substance detected. Passed.

Lab. No. 6826, Insp. No. 80810. "Powdered Stillingia." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6828, Insp. No. 80812. "Buchu." Wherritt-Mize Drug Co., Atchison. Not the official short-leaved buchu, *Barosma betulina*, but a mixture of *Barosma serratifolia* and *Empleurum serrulatum*. Illegal.

Lab. No. 6828, Insp. No. 80813. "Powdered White Pine Bark." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6829, Insp. No. 80814. "Powdered Senega." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6830, Insp. No. 80815. "Powdered Columbo." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6831, Insp. No. 80816. "Powdered Hellebore." Wherritt-Mize Drug Company, Atchison. Passed.

Lab. No. 6832, Insp. No. 80817. "Black Pepper." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6833, Insp. No. 80818. "Black Cohosh." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6834, Insp. No. 80819. "Nux Vomica." Wherritt-Mize Drug Co., Atchison. Contained 1.29 per cent strychnine. Passed.

Lab. No. 6835, Insp. No. 80820. "Mace." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6836, Insp. No. 80821. "Manna." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6837, Insp. No. 80822. "Rhubarb." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6838, Insp. No. 80923. "Cardamon." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6839, Insp. No. 80824. "Acacia." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6840, Insp. No. 80825. "Nutmeg." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6841, Insp. No. 80826. "Cardamom." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6842, Insp. No. 80827. "Powdered Belladonna." Wherritt-Mize Drug Co., Atchison. Contained 0.37 per cent alkaloids. Passed.

Lab. No. 6843, Insp. No. 80828. "Powdered Poke Root." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6844, Insp. No. 80829. "Powdered Orris." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6845, Insp. No. 80830. "Anise." Wherritt-Mize Drug Co., Atchison. Excess stems present. Insects present. Numerous small black seeds present. Substandard.

Lab. No. 6846, Insp. No. 80831. "Gentian." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6847, Insp. No. 80832. "Jamaica Ginger." Wherritt-Mize Drug Co., Atchison. Nonvolatile petroleum ether extract, 3.99 per cent; total petroleum ether extract, 5.54 per cent; ash, 3.65 per cent; moisture, 12.3 per cent; cold water extract, 11.87 per cent; cork cells present, showing presence of unpeeled drug.

Lab. No. 6848, Insp. No. 80833. "Senna." Wherritt-Mize Drug Co., Atchison. Probably cultivated variety of Indian Senna. Passed.

Lab. No. 6849, Insp. No. 80834. "Valerian." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6850, Insp. No. 80835A. "Powdered Wild Cherry." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6850, Insp. No. 80835B. "Quassia." Wherritt-Mize Drug Co. Passed.

Lab. No. 6852, Insp. No. 80836. "Bitter Apple." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6853, Insp. No. 80837. "Black Mustard." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6854, Insp. No. 80838. "Elecampane." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6855, Insp. No. 80839. "Elm Bark." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6856, Insp. No. 80840. "Cloves." Wherritt-Mize Drug Co., Atchison. Volatile ether extract, 13.83 per cent; ash, 5.82 per cent. Passed.

Lab. No. 6857, Insp. No. 80841. "Sassafras." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6858, Insp. No. 80842. "Culver's Root." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6859, Insp. No. 80843. "Wormseed." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6860, Insp. No. 80844. "Myrrh." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6861, Insp. No. 80845. "Arnica." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6862, Insp. No. 80846. "Cubeb." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6863, Insp. No. 80847. "Calamus." Wherritt-Mize Drug Co., Atchison. Peeled rhizome. U. S. P. specifies unpeeled rhizome. Misbranded.

Lab. No. 6854, Insp. No. 80848A. "Powdered Cinchona." Wherritt-Mize Drug Co., Atchison. Contained 4.26 per cent ether-soluble alkalis. Passed.

Lab. No. 6865, Insp. No. 80848B. "Star Anise." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6867, Insp. No. 80850. "Blood Root." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6866, Insp. No. 80849. "Celery Seed." Wherritt-Mize Drug Co., Atchison. Passed.

Lab. No. 6868, Insp. No. 80851. "Aconite." Wherritt-Mize Drug Co., Atchison. Contained 0.519 per cent aconitine. Passed.

Lab. No. 6870, Insp. No. 80853. "Cape Aloes." Wherritt-Mize Drug Co., Atchison. Responds to tests for cape aloes. Passed.

Lab. No. 6875, Insp. No. 21475. "Dilute Hydrochloric Acid." City Drug Store, Arkansas City. Specific gravity, 1.0598. Contained 12.18 per cent absolute acid. Above standard.

Lab. No. 6880, Insp. No. 21504. "Nux Vomica." W. E. Feess, Parsons. Contained 1.26 per cent strychnine. Passed.

Lab. No. 6884, Insp. No. 21813. "Phenacetine." E. Clate Fair, Independence. Passed.

Lab. No. 6885, Insp. No. 21469. "Elixir Terpene Hydrate with Heroin." A. C. Rosser & Co., Osage City. Contained about one-third grain heroin per ounce. Comes under antinarcotic law.

Lab. No. 6881, Insp. No. 21508. "Aspirin Tablets, 5 gr." J. C. Mundis & Co., Iola. Contained 5.08 grains acetyl salicylic acid. Passed.

Lab. No. 6752, Insp. No. 100106. "Kamethol." Contained mucilage, borax, menthol, camphor, oil of spike or similar volatile oil, and 7.2 per cent alcohol.

Lab. No. 6792, Insp. No. 100131. "Alcohol." U. S. Pharmacy, Parsons. Contained 94.39 per cent alcohol.

Lab. No. 6794, Insp. No. 100133. "Pepsodent Proteolytic Tooth Paste." Pepsodent Company, Chicago. Sample has slight proteolytic power.

Lab. No. 6795, Insp. No. 100134. "Vacuum Packed Coffee." Hanley & Kinsella Coffee and Spice Co., St. Louis, Mo. Moisture, 1.87 per cent; ash, 4.47 per cent; water extract, 22.25 per cent; nitrogen, 2.51 per cent; petroleum ether extract, 16.03 per cent; caffeine, .934 per cent; cup test, excellent. Passed.

Lab. No. 6796, Insp. No. 100135. "Hofstra Insect Destroyer." C. J. Davis, city food inspector, Wichita. Contained Dalmatian insect powder (*Pprethri flores*) and added cornstarch. Said to have been used to spray flies in grocery-store windows.

Lab. No. 6796½, Insp. No. 100136. "Insect Destroyer, Hofstra." Contained Dalmatian insect powder and starch.

Lab. No. 6798, Insp. No. 100137. "Cassidy's Herbs." Lexington Patent Medicine Co., Lexington, Ky. Stillingia root, rumex root, chimaphila leaves, blue flag root, coriander seed, corydalis, xanthoxylum and sanguinaria were detected.

Lab. No. 6816, Insp. No. 21463. "Aspirin Compound." Duvall Drug Co., Hutchinson. Said to contain aspirin, 5 grains; cimicifugin, ¼ grain; colchicum, ¼₁₀₀ grain; phytolaccin, ¼ grain. Contained 4.5 grains aspirin. Capsules softened and aspirin partially decomposed. Declared weight of contents of capsules, .3506 gram; average weight of contents of capsules found to be .2985 gram. Presence of vegetable tissue and starch indicates crude drug and not active principle was used.

Lab. No. 6817, Insp. No. 21466. "Mineral Glycerin." Ward & Co., Chicago. Specific grains, .8614. No saponifiable matter present. Sample was liquid petrolatum.

Lab. No. 6818, Insp. No. 21468. "Compound Pine Tar Cough Syrup." Ward & Co., Chicago. Contained ammonium chloride and syrup. No chloroform, alkaloids or alcohol detected.

Lab. No. 6819, Insp. No. 21467. "Anti Dandruff Powder." Ward & Co., Chicago. Composed of sodium carbonate.

YELLOW WAX.

Lab. No. 6770, Insp. No. 21368. Warble Diamond & Son, Clay Center. Specific gravity, .913; saponification value, 54.17. Contains paraffin and fatty acid. Adulterated.

Lab. No. 6811, Insp. No. 21449. Fred Weesner & Co., Hutchinson. Specific gravity, .956; saponification value, 95.47. Passed.

NOTE.—Yellow wax should have specific gravity, .951-.960 at 25° C. and saponification value, 90-96.

LIQUEFIED PHENOL.

Lab. No. 6775, Insp. No. 21393. F. G. Corbin, Topeka. Specific gravity, 1.0614; per cent phenol, 84.11. Substandard.

Lab. No. 6768, Insp. No. 21362. Chatelle-Hamilton Drug Co., Norton. Specific gravity, 1.1055; per cent phenol, 75.84. Glycerine present. Adulterated.

Lab. No. 6804, Insp. No. 21439. Hamilton Drug Co., Macksville. Per cent phenol, 89.93. Passed.

Lab. No. 6815, Insp. No. 21454. Dr. J. Allen, Hutchinson. Per cent phenol, 88.11. Passed.

NOTE.—Liquefied phenol should contain not less than 86.4 per cent absolute phenol.

LIMEWATER.

Lab. No. 6771, Insp. No. 21378. A. M. Petro, Topeka. Per cent Ca(OH)₂, .1709. Passed.

Lab. No. 6774, Insp. No. 21383. Marshall Bros., Topeka. Per cent Ca(OH)₂, .0850. Adulterated.

Lab. No. 6773, Insp. No. 21382. Chesterfield Pharmacy, Topeka. Per cent Ca(OH)₂, .1644. Passed.

Lab. No. 6772, Insp. No. 21380. Campbell Drug Co., Topeka. Per cent Ca(OH)₂, .1702. Passed.

NOTE.—Limewater should contain .14 per cent Ca(OH)₂.

POWDERED CAPSICUM.

Lab. No. 6813, Insp. No. 21451. Bailey & Adams, Hutchinson. Non-volatile petroleum ether extract, 13.86; per cent volatile matter, 8.47; ash, 6.13. Not capsicum, or small species.

Lab. No. 6869, Insp. No. 80852. Wherritt-Mize Drug Co., Atchison. Nonvolatile petroleum ether extract, 14.72; per cent volatile matter, 9.48; ash, 5.82. Passed.

CAYENNE PEPPER.

Lab. No. 6871, Insp. No. 100144. K. K. K. Medical Co., Keokuk, Ia. Nonvolatile ether extract, 17.85; per cent volatile matter, 7.62; ash, 6.30. Not small species.

Lab. No. 6876, Insp. No. 21482. Caney Pharmacy, Caney. Nonvolatile ether extract, 15.07; ash, 5.81. Contained 408 live insects visible to naked eye.

Lab. No. 6781, Insp. No. 60290. H. W. Steger, Iola. Nonvolatile ether extract, 6.36; per cent volatile matter, 12.85; ash, 6.51. Contained insects.

Lab. No. 6782, Insp. No. 60317. Stai Grocery, Madison. Nonvolatile ether extract, 13.63; per cent volatile matter, 17.84; ash, 6.15. Not small species.

Lab. No. 6882, Insp. No. 100145. K. C. Wholesale Grocery Co., Kansas City, Mo. Nonvolatile ether extract, 20.79; per cent volatile matter, 7.16; ash, 5.07. Not small species.

Lab. No. 6787, Insp. No. 70632. F. G. Borkley. Nonvolatile ether extract, 12.79; per cent volatile matter, 11.74; ash, 5.62. Not small species.

Lab. No. 6788, Insp. No. 70633. O. Wright, Dodge City. Nonvolatile ether extract, 13.38; per cent volatile matter, 13.69; ash, 5.71. Not small species.

Lab. No. 6790, Insp. No. 21434. W. C. Rishel, Emporia. Nonvolatile ether extract, 14.4; per cent volatile matter, 11.54; ash, 5.71. Not small species.

NOTE.—Cayenne pepper should contain not less than 15 per cent nonvolatile ether extract; not more than 6.5 per cent total ash.

RED PEPPER.

Lab. No. 6777, Insp. No. 60258. Cook & Baker Co., Coldwater. Petroleum ether extract, 15.31; per cent volatile matter, 9.93; ash, 5.27.

Lab. No. 6778, Insp. No. 60257. Nichols, Coldwater. Petroleum ether extract, 15.66; per cent volatile matter, 9.01; ash, 4.27.

Lab. No. 6779, Insp. No. 60288. M. C. McKenney, Iola. Petroleum ether extract, 11.52; per cent volatile matter, 10.74; ash, 6. Contained insects.

Lab. No. 6780, Insp. No. 60289. Fryer Bros., Iola. Petroleum ether extract, 13.41; per cent volatile matter, 10.70; ash, 5.77.

Lab. No. 6783, Insp. No. 60318. E. C. B——, Northcott. Petroleum ether extract, 14.63; per cent volatile matter, 12.51; ash, 5.21.

Lab. No. 6784, Insp. No. 60319. J. W. Fragie, Madison. Petroleum ether extract, 12.93; per cent volatile matter, 16.17; ash, 5.59.

Lab. No. 6785, Insp. No. 70630. Nichols Mercantile Co., Spearville. Petroleum ether extract, 15.07; per cent volatile matter, 17.47; ash, 5.45.

Lab. No. 6786, Insp. No. 70631. F. G. Barkley, Dodge City. Petroleum ether extract, 16.51; per cent volatile matter, 11.99; ash, 5.50.

Lab. No. 6789, Insp. No. 70634. F. G. Barkley, Dodge City. Petroleum ether extract, 17.41; per cent volatile matter, 9.59; ash, 4.39.

Lab. No. 6877, Insp. No. 21485. Floren Drug Co., Coffeyville. Petroleum ether extract, 18.78; per cent of volatile matter, 9.52; ash, 6.35.

NOTE.—There is no standard for red pepper.

RAW LINSEED OIL.

Lab. No. 6898, Insp. No. 21528. R. H. Wigner, Gridley. Specific gravity, .924; saponification value, 143.33; iodine number, 136.57; drying test, 72 hours. Contained mineral oil. Soft coat on glass.

Lab. No. 6887, Insp. No. 21511. Cramer's Pharmacy, Independence. Specific gravity, .928; saponification value, 190.85; iodine number, 175.84; drying test, 72 hours. Passed.

SENNA LEAVES.

Lab. No. 6888, Insp. 21519. L. W. Ash, Pittsburg. Passed.

Lab. No. 6889, Insp. No. 21520. S. S. Casey, Frontenac. Passed.

CARBOLIC ACID (NOT FOR MEDICAL USE).

Lab. No. 6895, Insp. No. 21526. Geo. Ulrich, Piqua. Specific gravity, 1.0637; per cent phenol, 49.64. Turbid, contained glycerine.

Lab. No. 6896, Insp. No. 21526½. Geo. Ulrich, Piqua. Specific gravity, 1.0629; per cent phenol, 50.4. Turbid, contained glycerine.

LIQUID PETROLATUM.

Lab. No. 6801, Insp. No. 21436. "Colorless Lilly." W. E. Brownell, Moscow. Specific gravity, .850; H₂SO₄ test, red; saponifiable matter, none. Conforms to U. S. P.; does not conform to B. P.

Lab. No. 6802, Insp. No. 21437. "Russianol." City Drug Store, Pawnee Rock. Specific gravity, .852; H₂SO₄ test, light brown; saponifiable matter, none.

Lab. No. 6803, Insp. No. 21438. "Stanolax." Hoyt's Drug Store, Belpre. Specific gravity, .851; H₂SO₄ test, light yellow; saponifiable matter, none.

Lab. No. 6805, Insp. No. 21440. "Petrolene." Burnett's Drug Store, Garfield. Specific gravity, .853; H₂SO₄ test, light yellow; saponifiable matter, none.

Lab. No. 6807, Insp. No. 21442. "Minerol." Kingdom Pharmacy, Kingdom. Specific gravity, .853; H₂SO₄ test, light brown; saponifiable matter, none. Conforms to U. S. P., not to B. P. tests.

Lab. No. 6809, Insp. No. 21447. "Liquid Hydroleum." Johnson Drug Store, Ellinwood. Specific gravity, .849; H₂SO₄ test, light brown; saponifiable matter, none.

Lab. No. 6810, Insp. No. 21448. "Liquid Petrolatum." Gem Drug Store, Ellinwood. Specific gravity, .848; H₂SO₄ test, light yellow; saponifiable matter, none.

CHILI POWDERS.

Lab. No. 6753, Insp. No. 21340. "Mexene." L. Wiss, Topeka. Red pepper, wheat starch, garlic, cumin.

Lab. No. 6755, Insp. No. 21342. "Red Star." J. G. McRae, Topeka. Red pepper, starch, capsicum, black pepper, origanum.

Lab. No. 6756, Insp. No. 21343. Topeka Spice Co., Topeka. Paprika, cornstarch, sweet majorum.

Lab. No. 6758, Insp. No. 21345. "Mexican Chili Pepper." Topeka Spice Co., Topeka. Red pepper.

Lab. No. 6759, Insp. No. 21346. "Chili." Topeka Spice Co., Topeka. Paprika, black pepper, starch (small amount of each), too small to be intended for adulterant.

Lab. No. 6761, Insp. 21352. "Gebhardt's." Rex Cash Grocery Co., Topeka. Red pepper, black pepper, foreign starch.

Lab. No. 6762, Insp. No. 21356. "Chiltomaline." Economy Cash Market, Topeka. Red pepper, black pepper, starch, garlic, origanum, salt.

Lab. No. 6764, Insp. 21358. "Forbes Chili Powder." H. S. Riddle, Topeka. Red pepper, black pepper, wheat starch, garlic, salt.

Lab. No. 6769, Insp. No. 21363. "Frontier." Eakin Bros., Clayton. Paprika, wheat starch, salt, black pepper, garlic, leaf (unidentified), cumin.

PAPRIKA.

Lab. No. 6754, Insp. No. 21341. "Folgers." L. Wiss, Topeka. Paprika and small amount foreign starch.

Lab. No. 6757, Insp. No. 21344. "Quality." Topeka Spice Co., Topeka. Paprika.

Lab. No. 6760, Insp. No. 21351. Economy Cash Market, Topeka. Paprika.

ACID ACETYL SALICYLIC.

Lab. No. 6872, Insp. No. 21476. E. C. Dye, Arkansas City. Per cent CHCl_3 insoluble, 76.27; soluble, 23.72. Contained milk sugar, organic acid, acetanilid, salicylic acid. Adulterated and misbranded.

Lab. No. 6879, Insp. No. 21503. K. K. Pharmacy, Parsons. Invoice, Cutino Drug and Sundry Co., Kansas City, Mo. Per cent CHCl_3 insoluble, 74.9; soluble, 25.1. Contained organic acid, milk sugar, acetanilid, salicylic acid. Adulterated and misbranded.

Lab. No. 6883, Insp. No. 21512. E. Clate Fair, Independence. Per cent CHCl_3 insoluble, 75.3; soluble, 24.7. Contained acetanilid, salicylic acid, milk sugar, organic acid. Adulterated and misbranded.

Lab. No. 6886, Insp. No. 21518. S. E. Wilson, Altoona. Per cent CHCl_3 soluble, 100. Passed.

Lab. No. 6891, Insp. No. 21522. Pittsburg Drug Co., Pittsburg. Per cent CHCl_3 insoluble, 74.69; soluble, 25.31. Contained acetanilid, salicylic acid, milk sugar, organic acid. Adulterated and misbranded.

TABLETS ACID ACETYLO SALICYLIC.

Lab. No. 6873, Insp. No. 21479. F. O. Thomas, Arkansas City. Manufactured by Cutino Chemical Co., Kansas City, Mo. Acetanilid, milk sugar, salicylic acid, chloroform-insoluble organic acid. Adulterated and misbranded.

Lab. No. 6874, Insp. No. 21498. Owl Drug Store, Coffeyville. Acetanilid, sugar, starch and chloroform-insoluble organic acid. Adulterated and misbranded.

Lab. No. 6878, Insp. No. 21502. Red Cross Pharmacy, Parsons. Acetanilid, sugar and salicylic acid. Adulterated and misbranded.

Lab. No. 6890, Insp. No. 21521. Owl Drug Store, Pittsburg. Purchased from E. Cutino, Kansas City, Mo. Sugar, acetanilid, salicylic acid and chloroform-insoluble organic acid. Adulterated and misbranded.

Lab. No. 6894, Insp. No. 21525. Y. E. McNaught, Girard. Organic acid, sugar, starch and acetanilid. Adulterated and misbranded.

Lab. No. 6897, Insp. No. 21527. W. J. Briggs, Burlington. Acetylo salicylic acid, 4.61 grains per tablet.

My Creed.

I hold that Christian grace abounds
Where charity is seen; that when
We climb to heaven, 'tis on the rounds
Of love to men.

I hold all else, named piety,
A selfish scheme, a vain pretense;
Where center is not—can there be
Circumstance?

This, I moreover hold, and dare
Affirm where'er my rhyme may go—
Whatever things be sweet or fair,
Love makes them so.

Whether it be the lullabies
That charm to rest the nursling bird,
Or that sweet confidence of sighs
And blushes made without a word.

Whether the dazzling and the flush
Of softly sumptuous garden bowers,
Or by some cabin door, a bush
Of ragged flowers.

'Tis not the wide phylactery,
Nor stubborn fact, nor stated prayers,
That make us saints; we judge the tree
By what it bears.

And when a man can live apart
From works, on theologic trust,
I know the blood about his heart
Is dry as dust.

—Alice Cary.

BULLETIN

OF THE

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S. J. CRUMBINE, M. D., Editor.

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VOL. XII

CONTENTS.

Morbidity Report for January, 1916, page 18.

Compensation for Typhoid Fever, page 20.

The Economical Value of Visiting Nurse Work, page 21.

Report of the Division of Food and Drugs for January, 1916, page 24.

Wanted, page 25.

The Sixth Annual Summer School for Physicians and Health Officers, page 26.

Safety First, page 26.

How It Happened, page 28.

The Popular Disease, page 29.

Some Health Questions, page 30.

Exercise, page 31.

NOTES.

Man's greatest blessing—work!

Keep the body sewers open!

The best spring tonic—work out doors!

The hibernating season is over. Come out!

Baby-week literature sent upon request. Address: Division of Child Hygiene, Topeka.

"Dandelion greens" will help solve the dandelion question, as well as favorably affect the constipation habit!

"It may well be claimed that the care of individual and family health is the first and most patriotic duty of a citizen."—Taft.

The death reports show that whooping cough and measles are much more serious diseases than smallpox. Parents, beware!

An infallible spring remedy to "thin the blood": Take one hour's hard work in the garden or yard daily, a pint of good pure water inside, and a shower of twenty gallons outside.

It is said that a man breathes as much with his legs as he does with his lungs. Those of us who use our legs freely during these budding and refreshing days of spring may feel tired at night, but we may thereby escape that "tired feeling" in the morning.

MORBIDITY REPORTS FOR JANUARY, 1916.

Number of cases reported from each county.

COUNTIES.	Typhoid fever.....				Measles.....	Whooping cough.....	Scarlet fever.....	Poliomyelitis.....	Mumps.....	Tuberculosis.....	Chicken pox.....	Pneumonia.....	Other communicable diseases.....
THE STATE.....	32	1			498	186	7	3	74	4	163	400	71
Allen.....	0	3	1	0	3	7	0	0	1	0	4	8	0
Anderson.....	0	0	2	0	5	7	0	0	0	0	1	3	0
Atchison, except ^a Atchison city.....	0	2	2	0	0	0	0	0	0	0	0	0	0
Barber.....	0	2	0	0	1	0	0	0	0	0	0	0	0
Barton.....	0	9	7	2	0	0	0	0	0	0	0	0	0
Bourbon, except ^a Fort Scott.....	1	0	0	1	47	1	0	0	0	0	0	0	0
Brown.....	1	0	3	4	31	0	0	0	2	0	0	4	2
Butler.....	0	4	4	1	0	0	0	0	0	0	0	26	0
Chase.....	0	0	5	1	0	0	0	0	0	0	0	8	1
Chautauque.....	1	7	0	0	0	0	0	0	0	0	2	0	1
Cherokee.....	1	9	0	5	2	0	0	0	0	0	1	5	1
Cheyenne.....	0	0	0	0	0	0	0	0	0	0	1	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Clay.....	0	1	3	9	5	0	0	0	4	0	2	1	1
Cloud.....	0	1	0	0	1	0	0	0	1	0	0	7	0
Coffey.....	0	1	4	0	0	0	0	0	0	0	0	2	0
Comanche.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Cowley.....	2	2	7	0	2	2	0	0	0	0	5	10	0
Crawford, except ^a Pittsburg.....	1	3	0	0	4	0	0	0	0	0	0	4	0
Decatur.....	0	0	1	1	0	0	0	0	0	0	0	0	0
Dickinson.....	0	4	0	0	8	0	0	0	0	0	0	0	0
Doniphan.....	0	0	20	0	0	0	0	0	2	0	3	11	1
Douglas.....	0	0	1	1	1	0	0	0	1	0	2	0	0
Edwards.....	1	0	1	0	0	0	0	0	0	0	0	0	0
Ellis.....	0	1	0	0	0	0	0	0	0	0	0	1	0
Ellis.....	0	0	0	0	0	0	1	0	0	0	0	2	0
Ellsworth.....	0	1	7	0	0	2	0	0	0	0	4	0	0
Finney.....	0	0	0	0	0	0	0	0	0	0	3	0	0
Ford.....	1	2	0	0	0	0	0	0	0	0	0	0	1
Franklin.....	0	0	0	0	14	0	0	0	0	0	2	1	0
Geary.....	0	0	0	0	1	0	1	0	0	0	0	3	0
Gove.....	0	0	0	11	1	0	0	0	0	0	0	0	0
Graham.....	0	0	10	0	0	0	0	0	0	0	0	3	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray.....	0	0	5	1	0	0	0	0	0	0	1	2	1
Greene.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood.....	2	2	5	0	1	0	0	0	0	0	1	2	1
Hamilton ^a	0	1	3	0	0	0	0	0	0	0	0	1	0
Harper.....	0	0	2	0	0	0	1	0	0	0	1	0	0
Harvey.....	0	0	0	0	4	0	0	0	0	0	0	1	0
Haskell.....	0	0	0	0	0	0	0	0	0	0	0	1	0
Hodgeman.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackson.....	0	0	0	0	2	24	0	0	0	0	2	0	1
Jefferson.....	2	2	0	0	2	2	0	0	2	0	2	6	0
Jewell.....	1	0	1	0	1	3	0	0	3	0	0	4	1
Johnson.....	0	0	4	4	1	0	0	0	0	0	0	4	0
Kearny.....	0	0	5	0	0	0	0	0	0	0	0	1	0
Kingman.....	0	4	1	0	0	0	0	0	0	0	2	3	0
Kiowa.....	0	1	0	0	0	0	0	0	0	0	0	0	0
Labette, except ^a Parsons.....	0	5	1	22	4	0	0	0	0	0	3	5	0
Lane.....	0	0	0	2	1	0	0	0	0	0	0	7	0
Leavenworth, except ^a Leavenworth city.....	0	1	2	0	2	4	0	0	0	0	0	18	3
Lincoln.....	1	1	0	0	35	18	0	0	0	0	0	11	0
Linn.....	0	3	0	3	23	6	0	0	0	0	0	1	0

MORBIDITY REPORTS FOR JANUARY, 1916.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Polomyelitis.....	Mumps.....	Trachoma.....	Chicken pox.....	Pneumonia.....	Other communicable diseases.....
Logan.....	1	0	3	0	0	0	0	0	0	0	0	0	0
Lyon.....	1	2	3	0	0	2	0	0	0	0	0	2	0
Marion.....	1	2	2	0	0	0	0	0	3	1	0	13	0
Marshall.....	0	0	1	15	1	1	0	0	0	0	0	0	0
McPherson.....	0	0	4	0	0	0	1	1	0	0	2	0	2
Meads.....	0	1	5	0	0	0	0	0	0	0	4	0	0
Miami.....	0	4	6	0	0	0	0	0	0	0	4	5	2
Mitchell.....	0	3	1	0	3	0	0	0	0	0	4	3	0
Montgomery, except Coffeyville.....	2	7	1	5	0	0	1	0	6	0	1	5	3
Morris.....	0	3	1	0	0	0	0	0	0	0	0	0	0
Merton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemaha.....	0	0	0	0	6	0	0	1	0	0	0	12	2
Neosho.....	0	10	4	6	0	0	0	0	3	0	0	7	1
Ness.....	0	0	0	0	9	1	0	0	0	0	1	0	1
Norton.....	0	0	0	19	3	0	0	0	0	0	2	5	1
Osage.....	0	2	1	7	0	0	0	0	0	0	2	11	1
Osborne.....	0	1	0	10	0	0	0	0	1	0	0	2	0
Ottawa.....	0	0	3	0	6	0	0	0	0	0	2	1	0
Pawnee.....	2	0	7	0	0	0	0	0	0	0	1	2	0
Phillips.....	1	11	1	0	3	0	0	0	0	0	1	2	1
Pettawatomie.....	0	1	10	0	2	1	0	0	0	0	0	1	0
Pratt.....	0	1	4	0	0	0	1	0	0	0	1	1	0
Rawlins.....	0	0	0	0	1	5	0	0	0	0	0	0	0
Reno, except Hutchinson.....	0	0	7	1	1	0	0	0	0	0	0	7	0
Republic.....	1	3	0	7	11	0	0	0	0	0	0	5	0
Rice.....	0	0	1	0	1	0	0	0	0	0	4	1	3
Riley.....	0	1	9	0	135	0	1	0	0	0	3	7	0
Rooks.....	0	0	1	15	0	0	0	0	0	0	0	0	0
Rush.....	0	0	0	0	2	0	0	0	0	0	0	1	0
Russell.....	0	1	3	0	1	0	0	0	0	0	0	0	0
Saline.....	1	0	0	0	2	1	0	1	3	0	2	5	1
Scott.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	0	0	2	0	0	0	0	0	0	0	0	1	0
Seward.....	0	5	4	16	2	2	0	0	8	2	7	11	2
Shawnee, except Topeka.....	0	0	1	0	0	12	0	0	2	0	0	0	0
Sheridan.....	0	7	12	4	10	3	0	0	7	0	22	4	1
Sherman.....	0	0	4	0	1	0	0	0	0	0	0	0	0
Smith.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Stafford.....	0	0	0	0	4	0	0	0	3	0	0	0	0
Stanton*.....	0	0	0	0	1	1	0	0	0	0	2	9	1
Stevens.....	0	0	2	0	0	0	0	0	0	0	0	0	0
Sumner.....	4	4	15	0	6	25	0	0	0	0	25	22	2
Thomas.....	0	1	0	0	3	0	0	0	0	0	0	0	0
Trego.....	1	2	0	0	26	3	0	0	11	0	0	0	0
Wabaunsee.....	0	0	19	0	1	0	0	0	0	0	0	0	0
Wallace.....	0	0	0	0	0	0	0	0	2	0	0	0	0
Washington.....	0	2	0	7	0	5	0	0	0	0	0	0	0
Wichita*.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson.....	0	5	1	0	4	1	0	0	0	0	0	8	2
Woodson.....	0	2	1	0	0	0	0	0	1	0	0	0	0
Wyandotte, except* Kansas City.....	1	19	22	32	0	2	1	0	0	0	10	3	3

* No report.
Other communicable diseases: Septic sore throat 18, cancer 18, grippe 1, syphilis 2, malaria 6, ophthalmia neonatorum 3, gonorrhea 10, erysipelas 9, tetanus 1, anthrax 3.

Compensation for Typhoid Fever.

Some years ago, Professor Sedgwick gave expression to the view that "for every death from typhoid fever some one should be hung." In the July, 1913, issue, this Bulletin inquired why, for every case of typhoid, some one, at least, should not be punished for criminal negligence. To many who have complacently contemplated the prevalence of typhoid fever as a condition without remedy the recent decision of the supreme court of Wisconsin, as noted in the February 14 issue of the United States Public Health Reports, will be of interest.

The case arose out of a suit brought by a widow under the workmen's compensation laws. It was shown that death of the employee was caused by typhoid fever which was contracted by drinking impure water furnished by the employer. The court decided that the death was the result of an accident, and that the employer was liable under the Wisconsin law.

The following excerpts from the view of Mr. Justice Siebecker in handing down the decision would seem to approach the views cited in the first paragraph:

Accidents without negligence are rare as compared to accidents resulting from negligence. . . . The term "accidental," as used in compensation laws, denotes something unusual, unexpected, and undesigned. The nature of it implies that there was an external act or occurrence which caused the personal injury or death of the employee. It contemplates an event not within one's foresight and expectation resulting in a mishap causing injury to the employee. Such an occurrence may be due to purely accidental causes, or it may be due to oversight and negligence.

The fact that deceased became afflicted with typhoid fever while in defendant's service would not in the sense of the statute constitute a charge that he sustained an accidental injury, but the allegations go further, and state that this typhoid affliction is attributable to the undesigned and unexpected occurrence of the presence of bacteria in the drinking water furnished him by the defendant, as an incident to his employment. These facts and circumstances clearly charge that Vennen's sickness was the result of an unintended and unexpected mishap incident to his employment. These allegations fulfill the requirements of the statute that the drinking of the polluted water by the deceased was an accidental occurrence while he was "performing services growing out of and incidental to his employment." It is alleged that the consequences of this alleged accident resulted in afflicting Vennen with typhoid disease, which caused his death. Diseases caused by accident to an employee while "performing services growing out of and incidental to his employment" are injuries within the contemplation of the workmen's compensation act.

The Economical Value of Visiting Nurse Work.

The efficient health officer in Sumner county is a believer in rational publicity in public health work. A meeting of the Wellington Commercial Club was held recently to discuss the advisability of employing a visiting nurse for the city schools, and Dr. T. H. Jamieson, county health officer, was invited to address them on the subject. If Wellington does not take this progressive step as advocated by Doctor Jamieson, it will appear that it is not possessed of that live type of citizenship which all have been accustomed to expect from it.

For the good that it may do other towns as well as Wellington, we believe Doctor Jamieson's talk which appeared in the *Wellington News* will bear reading by every citizen:

About one in 200 cases die from mumps and chicken pox; probably 2 per cent die from whooping cough and measles, while 10 per cent die from scarlet fever and diphtheria.

Last year Wellington was the healthiest town of 7000 people in the world. Those dying reached an average of 53.3 years. On a basis of 7034 (found through efforts of the commercial club in 1910) only 9.8 persons out of each thousand died. But the city clerk says we have only 6540, giving us the splendid rate of 10.5; but our own assessors swore they found only 5683. If 69 people died out of 5683 our death rate was 12 per thousand—about that of Seattle, Wash. This shows how essential a full count is in reckoning whether a town is a good or a bad place to live.

In 1915, 275 Wellington people were reported as having quarantinable contagious diseases, of which 5 died. How to prevent these 275 or more cases of sickness each year with its attendant suffering and death, and thus save to the citizens the money spent in nursing, medical attention and funeral expenses, and also save valuable lives, is the problem under discussion; for be it known that 5 per cent of the persons suffering from these infectious diseases will die from the effects of such sickness during the next ten years.

It does not take a mathematician to tell you what these infections cost you in human lives. The deaths during the next ten years among these 275 people will be three times greater than the original deaths.

Let this soak in, then ask: "How shall we lower this awful slaughter of innocents?" My answer is, by education. The quickest and most efficient manner of spreading this information is through a school or community nurse. Employ a school nurse and install medical and dental inspection of all school children, then we will be on the way to ideal conditions.

When Johnnie is absent from school from sickness the nurse goes to the home and advises the mother, sees that the family physician is called, if needed, thus having an oversight on him and the family, that will prevent

infections reaching the school. While doing this she will also be educating the mother on how to care for the children.

The effects of adenoids, enlarged tonsils, bad teeth and poor vision will be recognized by a wide-awake nurse, and the family urged to have the defect corrected.

This personal educational work on the part of the nurse, i. e., teaching the how and the why of personal and community hygiene, is the essential thing.

These families will be taught the dangers of the open privy with its swarms of hatching flies carrying diarrhoeal and other diseases to the innocent. Manure, the maternity home of flies, will be reported to the city marshal; the mothers and families will be taught the dangers of dirty milk delivered or kept at a higher temperature than fifty degrees.

Wellington should have every home in town connected with the sewer, all stables thoroughly cleaned and manure hauled out of town at least every seven days, a weekly inspection of all dairies, accompanied with a bacterial count of milk samples as delivered to the users. To let our babies drink milk from tubercular cows is a crime.

Last year my records show that 257 city children were reported and quarantined for contagious diseases. The average case loses about three weeks (not taking into account the other members of the family who were kept out of school but did not contract the disease). This totals 871 weeks (the average school year is thirty-six weeks), so that the time lost was twenty-four years to one pupil or twenty-four pupils last year of school. This would hire and pay the school nurse, and by catching the cases early, save closing school and prevent the spread to other children. Remember it was not from these quarantined cases but from the unrecognized case that was out of school for only a short time that these infections spread. The school nurse will find these, thus preventing the disease from reaching the school.

Are you willing to pay the price—\$1000 a year for a first-class nurse?

In 1907 the Islands of New Zealand (about 1000 miles in length by 180 miles at the widest point, with a population of slightly over a million) organized "The New Zealand Society for the Health of Women and Children." Seventy volunteer committees in as many districts maintain the educational and nursing work.

The government assists in the work by providing a room at the different post offices for the nurses. These nurses receive their appointment only after regular graduation, followed by at least six months special training for this educational work. A nurse is not allowed to spend more than twenty-four hours continuously in one household. She is not there to nurse the patients, but to teach the people how to care for the sick or the new-born baby.

In five years the infant mortality sunk from ten per cent to five per cent. In other words, 1000 babies under one year of age were each year saved. Besides this, about as many more between the ages of one and twenty-one were saved. They, the people of New Zealand, paid the price. Are these 2000 children saved each year worth the expense? Surely babies are worth \$100 each.

Now let us come nearer home. Sumner county, Kansas, until two years ago spent a little less than \$400 a year for public health work. Each year about fifty babies died before reaching their first birthday; besides these about forty more died before reaching their twenty-first birthday. Then we had the sanitary survey (thanks to you men of the commercial club). In 1914 we spent \$1000, and 1915 \$1200. We opened a campaign of education. We scattered health literature broadcast over the county. We searched the weekly press for names of mothers of new-born babies and sent them a "Save the Baby Book." Cline, McDonald, the Wellington and other editors who regularly sent me their papers, have readers who should thank them for the lives of their babies. Later we received from registrars the names of every parent whose child is registered and sent them literature on "How to Save the Baby."

Did it pay? Instead of fifty babies going to heaven before the first year only thirty became angels, and instead of forty other children joining the heavenly choir we had only twenty.

You can have public health if you will pay the price in dollars and work. Are these forty saved babies worth the expenditure?

Let us come home for our examples. In Wellington the average number of deaths of children in 1912-'13-'14 was twenty-one (nine in first year and twelve in next twenty years). Last year it was twelve (five in the first year and seven in the next twenty years). 'You had good city health officers. Did you pay them what they were worth? Ask the parents what those nine children are worth.

Give the schools a nurse, and at least keep up the good work, for this education must be continuous or the death rate will climb and the children's deaths return to the regular twenty-one each year. It's up to you to pay the price.

The colt, the calf, and the lamb will be found scampering on the green the same day or even the hour of birth; but the baby comes into the world as naked as the statue of Venus; it is the most helpless eight pounds of heaven any man and woman can possess; it must be washed, cared for, tended and fed.

It takes a baby three years to learn to talk and all the rest of its life to learn when it has said enough.

Is this enough?

Cultivate the fresh-air habit; walk in it, sleep in it, work in it, live in it, and when you ride, ride this hobby; it is cheaper than a jitney and has no tire troubles. It will put bloom in your cheek, fire in your eye, and sharpen your wits; it will put spring in your step, laughter in your heart, and money in your pocket. Be known as a fresh-air crank and turn your crankiness to good purpose.—*North Carolina Health Bulletin.*

Is your baby registered? Your hunting dog is registered, why not the baby? Ask your physician.

Report of the Division of Food and Drugs, State Board of Health, for the Month of January, 1916.

LEON A. CONGDON, B. S., Chief of Division.

During the month of January, 1916, the traveling inspectors of this division made 822 inspections. They also inspected 560 scales, 1345 weights and 113 measures, condemning 1 scale, 94 weights and 5 measures. We have received from our laboratories the reports on 29 samples of foods and 26 samples of drugs which were submitted to them by our inspectors. One sample of baking powder was declared illegal in that it contained 25.5 per cent free tartaric acid. The beverages classed illegal contained a high per cent of alcohol and were not characteristic of what was claimed for them. The canned sweet potatoes and canned fruit were classed illegal in that they contained an excessive content of tin and were otherwise not desirable from a bacteriological standpoint. Two samples of extract of vanilla were found not true to label. One sample of pickles contained salts of aluminum, and three samples of sardines contained an excessive content of tin. One specimen of acid acetylo salicylic tablets (5 gr.) contained acetanilid and was therefore adulterated. Two carbolic acid samples were deficient in phenol and one of these contained an adulterant in the addition of glycerine. The essence of peppermint contained less than 2 per cent oil and was artificially colored, and hence was declared adulterated. The spirits of camphor declared illegal was substandard.

The following table gives the summary of food and drug analyses reported to this division for the month of January, 1916:

FOODS.					DRUGS.				
KIND OF SAMPLE.	Samples analyzed	Passed.	Illegal	Questionable	KIND OF SAMPLE.	Samples analyzed	Passed	Illegal	Questionable
Baking powder			1		Acid acetylo salicylic 5-grain tablets	4	3	1	
Brew malt beverage			2		Camphorated oil	1	1		
Cider			3		Carbolic acid	2		2	
Canned sweet potatoes			3		Comp. licorice powder.	1	1		
Canned fruits			2		Essence of peppermint.	1		1	
Extract of vanilla.			2		Elixir peptones	1			1
Extract of lemon.					Fluid extracts (investigational)	6			
Imitation lemon flavor					Proprietary remedies, miscella- neous	5			5
Gluten foods and flours					Senega leaves	1			1
Maple cream					Spirits of camphor.	2	1	1	
Mustard (prepared)					Sweet spirits of nitre	1	1		
Pickles			1		Tasteless Epsom salts	1	1		
Pop									
Sardines			3						
Totals	29	12	17		Totals	26	8	11	7

The following table gives the summary of inspections made during the month of January, 1916.

KIND OF PLACE INSPECTED.	Number of inspec- tions.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Grocery.....	217	60	26	122	9
Meat market.....	30	13	1	16	.....
Bakery.....	44	18	13	11	2
Grocery and meat.....	218	77	46	83	12
Grocery and bakery.....	2	1	.....	1	.....
Grocery and lunch.....	1	.....	1	.....	.....
Grocery and beverage.....	1	.....	.....	1	.....
Grocery and feed.....	1	.....	.....	1	.....
Grocery and confectionery.....	1	.....	.....	1	.....
Bakery and confectionery.....	1	1	.....	.....	.....
Bakery and restaurant.....	1	.....	.....	1	.....
Drug store.....	83	35	18	26	4
Doctor's dispensary.....	3	1	1	.....	1
Drug stock at general stores.....	2	.....	.....	2	.....
Medicine manufacturer.....	1	.....	1	.....	.....
Confectionery.....	12	4	1	6	1
Candy manufacturer.....	5	1	.....	4	.....
Condensery.....	1	1	.....	.....	.....
Creamery.....	2	1	.....	1	.....
Milk depot and grocery.....	2	1	.....	1	.....
Dairy.....	1	.....	.....	.....	.....
Ice cream factory.....	6	2	1	3	.....
Bottling works.....	7	3	.....	4	.....
Slaughterhouse.....	10	8	1	1	.....
Poultry, eggs and butter.....	1	.....	.....	.....	1
Wholesale grocery.....	3	2	.....	1	.....
Feed store.....	1	1	.....	.....	.....
Fruit and grocery.....	1	.....	.....	1	.....
Tea, coffee and spices.....	3	2	.....	1	.....
Gasoline filling station.....	9	.....	.....	.....	.....
Coal weighing inspections.....	15	.....	.....	.....	.....
Linseed oil inspections.....	6	.....	.....	.....	.....
Hotel.....	31	17	4	6	4
Restaurant.....	90	35	10	42	3
Rooming house.....	4	2	1	1	.....
Hotel and restaurant.....	6	1	.....	3	2
Totals.....	822	287	125	340	39

Per Cent of Sanitation.

(Exclusive of those not classed.)

36.28 per cent Good.
15.80 per cent Good to Fair.
42.98 per cent Fair.
4.95 per cent Poor.

Wanted.

Clinical observations and reports by physicians on results of the use of 1 per cent silver nitrate solution in ampoules as distributed free by the Kansas State Board of Health for the prevention of ophthalmia neonatorum. Criticisms and suggestions for improvement in package or methods invited.

The Sixth Annual Summer School for Physicians and Health Officers.

The Sixth Annual Summer School for Physicians and Health Officers will be held two weeks, beginning April 17 and ending April 28. The first week sessions will be held at the University at Lawrence, April 17 to 21, inclusive, and will be essentially a postgraduate course in the medical sciences. The second week will be held at Bell Memorial Hospital at Rosedale, beginning Monday, April 24, and concluding the evening of April 28.

In the forenoons of the second week clinics and demonstrations will be held in the Bell Memorial Hospital and the afternoons will be given over to distinctively public health work.

An announcement of detail of schedule and program will appear in the next issue of the BULLETIN.

The entire course is given without cost to any licensed physician in the state. We bespeak the full attendance of every health officer and cordially invite the licensed practitioners of the state.

Last year there were eighty enrolled for the course. We trust there may be many more this session.

Safety First.

During the month of January, 52 counties and 6 cities of the first class reported 280 cases of scarlet fever. Since only 1478 cases were reported in the whole year of 1915, the fact that the January, 1916, number is twenty per cent of the total of last year would seem to indicate that scarlet fever is unusually prevalent in Kansas. There have been a number of deaths in spite of the fact that the majority of the cases are mild.

Experience proves that the mildness of communicable disease tends to encourage epidemics, due to the fact that this very mildness makes people careless of preventive measures. The department, therefore, wishes to encourage greater precaution in the care of all cases, not only on the part of physicians, but on the part of individuals. In fact, it has been found, except in one or two isolated instances, that physicians

are not to blame, for investigation has shown that in the great majority of cases the disease has been so mild that a physician has not been called, and it is only after a death or two occurs that any alarm is felt.

As is well known, scarlet fever is one of the most contagious diseases, and is contracted by a very slight degree of exposure. It seems to be especially fatal to very young children. However, the ill effects of the disease should not be judged entirely by the immediate fatalities which occur, for scarlet fever is one disease in which resulting complications are more to be feared than immediate fatality. Many children have their efficiency impaired for life by these complications which result in loss, partial or complete, of vision, hearing and in remote deaths from renal or heart complications.

Consequently, it behooves every parent to be well on their guard in protecting their children from contact with other children who are known to be suffering with sore throat, accompanied by erythematous rash. The vast majority of cases of sore throat accompanied by rash, however mild, is in reality scarlet fever, and children manifesting such symptoms should not be allowed to attend school or mingle with others until a physician has been called and the existence of a communicable disease has been excluded.

This department has many inquiries as to quarantine regulations. May we say that the first and only rule of quarantine is the Golden Rule, namely, "Do unto others as you would have others do unto you." No parent would wish to have his children to come in contact with his neighbor's children who are afflicted with a communicable disease. Your children, afflicted with the same disease, are just as contagious as the neighbor's children, and no one would wish to feel that carelessness on his part was the cause of the death or even the impairment of health for life in another's child. Don't ask your doctor to conceal a case in your family. In fact, how much confidence can you have in a physician who accedes to your wishes in this matter? If he does it for you, will you not feel that he is bound to do the same for another family, and if he does it for all families, how long can he hold the confidence of any community? Sooner or later, he must confess himself either an ignoramus or a law-breaker, and certainly no thinking physician will disregard either result for the sake

of protecting your family from a very slight, temporary inconvenience.

Quarantine means the minimum amount of inconvenience to the individual with a maximum amount of protection to the public. The more intelligence persons manifest in the prompt notification and isolation of communicable disease, the less irksome quarantine will become and more liberties may be allowed. When your children develop any acute symptoms, accompanied by any eruption of whatever nature, insist on knowing what is the matter with them and keep them away from other children until you do know. By doing this you will save many another child a siege of illness, and possibly its life and future health. Evasion of quarantine or concealment of cases means, in every instance, either ignorance or criminal carelessness, and low type of citizenship. We boast of the intelligence of Kansas people; let us prove it by the elimination of communicable disease.

How It Happened.

"James, breakfast is ready, get up."

"But I'm not hungry, mother. My head aches, my throat's sore, my skin is hot, and I itch all over. I guess I'm sick, and on Saturday too."

Greatly frightened at her son's flushed face and evident fever, his mother sought advice from the corner drug store. "It's only indigestion and a stomach rash," said the druggist. "Give him some of this medicine and he'll be all right in a day or two." The medicine was carefully administered, and little James, feeling much better, returned to school after an absence of only one day. True, his hands and face peeled off in time, and some of his little companions assisted him in pulling off the dead skin, but the incident was soon forgotten.

Twenty-five children sick of scarlet fever in two weeks. The neighborhood is now thoroughly aroused. Scores of parents, alarmed at the wide prevalence of the disease, urge and even demand the school be closed and fumigated. The untrained health officer was not informed in methods employed by sanitarians for suppressing epidemics and appealed for aid to the State Health Department.—*Indiana Bulletin.*

Failure to report a birth and thus protect the legal rights of the child cost Dr. M. A. Brawley, jr., of Frankfort, five dollars and costs, or a total of nine dollars and fifty cents. It does not pay to defy the laws of the great state of Kansas.

The Popular Disease.

An ache in the back and a pain in the head—

That's the Grip!

A choke in the throat and a yearning for bed—

That's the Grip!

A river of heat, then a shiver of cold,

A feeling of being three hundred years old,

A willingness even to do as you're told—

That's the Grip!

An arrow of pain, now in this place, now that—

That's the Grip!

A feeling of doubt as to where you are at—

That's the Grip!

A stupid sensation—of course, wholly new;

A foolish depression—why should you feel blue?

A doubt as to whether this really is you—

That's the Grip!

Strange visions at night that deprive you of rest—

That's the Grip!

A taste in your mouth and a weight on your chest—

That's the Grip!

A tired sensation that runs through your veins,

A queer combination of aches and of pains,

A vapid admission of absence of brains—

That's the Grip!

A marvelous weakness, come on in a day—

That's the Grip!

A petulant wonder, "How long will it stay?"

That's the Grip!

A season of fever, a season of freeze,

A quivering weakness that's felt at the knees—

Say—if ever there was a hateful disease,

It's the Grip!

—*Selected.*

Some Health Questions and Answers.

Q. Why will a pan of water under a consumptive's bed cure night sweats?

A. It won't.

Q. What are the good and bad effects of sunlight in the parlor and living room?

A. Sunlight will promote the general health of the members of the family. It may fade the carpet. It's up to you to decide which is the more important.

Q. Why will a bag of asafetida about the neck keep off contagious disease?

A. For the same reason that a cold buckwheat cake on the back of the neck will quarry gallstones.

Q. What effect does an amber necklace have upon goiter?

A. The same effect as a moss agate cuff button.

Q. What is the best time to expose a child to measles so that he may have it and be through with it?

A. The day after you permit him to play with a razor and build bonfires on the parlor floor.

Q. What is the chief danger about vaccination?

A. That it will not be done early enough, thoroughly enough or frequently enough.

Q. Why do some people still fear diphtheria antitoxin?

A. For the same reason that some people still carry buckeyes in their trousers pockets to keep off rheumatism.

Q. What is the difference between Cuban itch and Porto Rican chicken pox?

A. There ain't no such animals.—*Illinois Health News*, November, 1915.

Exercise.

When the weather's bitter cold,

Exercise!

Do not hug the stove and scold,

Exercise!

If with red is tipped your nose,

If Jack Frost has nipped your toes,

If you think you're almost froze!

Exercise!

Would you be both well and strong?

Exercise!

It will make your life a song,

Exercise!

If each breath but makes you wheeze,

If you either cough or sneeze,

If rheumatic are your knees,

Exercise!

It will help to keep you young,

Exercise!

For the health of limb and lung,

Exercise!

It will shield from "germs'" alarms,

Strengthen muscles in your arms,

And enhance your greatest charms.

Exercise!

—E. M. H.

It is Well with the Boy.

I know not where my loved one may be lying,
In field or forest, or by town or sea,
Whether on earth or in the gray clouds flying—
I only know he can not come to me.
But looking upward through the night of weeping
I hear a voice call like a silver bell:
“Love’s stars are out, and God His watch is keeping,—
All’s well! All’s well!”

I know not what the future may be sending,
What little store of wisdom, wealth, or rest;
So long to wait, the strife so never-ending,
Wrong so enflamed, and right so sorely pressed.
But looking onward through the night of sorrow,
Still rings the music like a silver bell:
“Love’s stars are out; God governs the to-morrow,—
All’s well! All’s well!”
—*Myrtle B. S. Jackson.*

BULLETIN

OF THE

Kansas State Board of Health.

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S. J. CRUMBINE, M. D., Editor.

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CONTENTS.

A Father's Tribute, page 34.

**Program of the School of Physicians and Health Officers,
April 17-28, 1916, page 36.**

New Food Standards and Regulations, page 44.

Spring Decalogue, page 46.

Sanitation of the Mind, page 47.

Mother Goose up to Date, page 47.

Slow up—you'll make it!

"Bat the rat" and "Rouse mit the mouse."

The careless sneezer is the grippe's best ally.

Typhoid fever is more than a disease; it is a crime.

Don't neglect your good friends—the rake and the hoe.

**Who has never tasted what is bitter does not know what is
sweet.**

**Every uncared-for case of tuberculosis infects from four to ten
others.**

**"Success in business depends not so much upon lying awake
nights as in keeping awake daytimes."**

**Beware of the cold that hangs on. It's an old man of the sea
on your back, and there is pneumonia in his pack.**

**The sixth annual school for physicians and health officers will
be held the two weeks from April 17 to 29. Make your ar-
rangements now to attend.**

**Inasmuch as no one need have smallpox who seriously wishes to
prevent it, we therefore suggest that this old disease be given a
new name, viz., *the optional disease*.**

A Father's Tribute.

Accompanied by his bride of a few weeks, he left us one beautiful September day with his face set toward the far-away Land of the Dragon, beyond the deep waters, where the people live in the shadows of yesterday. He was so happy and joyous, so strong and purposeful—a fitting climax to all the years of faithful preparation and sturdy growth of body and character.

How joyful and proud the parents and friends who accompanied him to the train seemed to be—for was not the realization of his and their ambitions and dreams full compensation for the pangs of separation? Did they not feel that his triumphs and accomplishments, past and to come, were but the rich fruitage of years of preparation and clean living? There could be but one result, and that a full measure of success in all that makes a life strong and full of good report. Amid sally and jest from friends, and a tremulous "Good-bye" from mother and sister, the train started for the Golden Gate.

The father, unwilling to say the final word, sought the seclusion of the roaring train that he might have a few last hours with his only son. Then both father and son unburdened their hearts each to the other, and the years of the past were unrolled like a scroll that both might review the hallowed days of the home life. The anxiety of the father for the success of his boy was met by a loving admonition from the son, and the tears of parting were mingled with joyful anticipation of the days to come, when, like a conquering hero, crowned with the victory of success, he would return to his native country and beloved state, to be the staff and comfort to his aging parents! With a lingering handclasp, and a "Good-bye, father," the last mortal words were heard forever.

Then followed days of anxious waiting, until the letters began to come back telling of the honeymoon trip; the strange but interesting experiences in foreign lands and among alien peoples; the new business, with its problems, and the handicaps of a strange tongue and the stranger customs of a curious people; the home-building, with its joyous anticipation of the happy, satisfying days for the wife, and the friends who were already numbered by a score; the enthusiasm of youth and courage, giving all a glow of romance and an edge of zest which only those of red blood and high purpose can command.

And then the cable flashed the staggering news, "——— died to-day." Oh, it seems impossible, and yet it must be true, for the cold clay that was once the habitation of his ambitious spirit is on its way across the blue waters and green to be buried on the prairies he loved so well, and about which he wrote that he "would like to again smell the soil of the Kansas prairies."

He has been so much in our thoughts since then that his father called him the other day, intending to call his sister, but he answered not, although he seemed to be very near; he must have heard, for he is not now bound by the limitations of the flesh, and we know his life here was such as to assure a higher, fuller life beyond.

It is a great comfort to his parents to think of his brief but eventful life. They never thought him an "angel," for they knew him to be a full-blooded, fun-abounding boy, always ready for adventure and mischief, and they loved him all the more for it. He was fond of sports and athletics—and why not, when his "dad" played baseball and football with him from his early boyhood. His "letters" won in football and basket ball on the "varsity team" for two successive years attest his love for the manly sports.

How blessed are the memories of those days when the honk of the wild goose, the flight of the ducks, the trill of the plover and the whir of the prairie chicken sent father and son to the hunt—not for lust of blood, but because of the sheer joy of living, the interest in the ways of the wild, and the compelling enthusiasm of matching brain against instinct.

But more precious still are the memories of those days in early summer, when he was the companion of the father on those long country drives across the boundless prairies on his mission of relief to the sick. How the unfolding mind sought answer for the shimmering mirage in the distance, the strange and curious "mystic rings" where the toothsome mushroom grew, and where the tragedy of the prairies between wolf and buffalo was fought out so many years ago! It seems as though it were but yesterday when, coming to a place where the beautiful anemones (the "lilies of the field" of our Lord) tossed their lovely white and purple heads to the scented breeze, he, perforce, must stop and pluck great bunches of them for those who were sick and for those of the home, for, loving flowers himself, he thought all others must also care for these gifts of God.

He loved music, too, and that was a heritage from his mother; his service in the High School Glee Club shows that his soul was not "fit for treason, stratagems and spoils." He detested shams and deceit, and always insisted on a "fair show" and "no favors" in a contest. He was a "good sport."

He was diligent in business, and believed that the religion which, in a modest way, he professed, was entirely compatible with a successful career. No finer tribute could be made any business man than that in a letter from the main office reading: "It was upon him that I principally depended to set and maintain satisfying ethical standards and ideals in connection with the conduct of our Chinese business."

He loved his friends, his church and his work, and was never neglectful of any of them. But he has left his friends and the Church Militant for another Friend and the Church Triumphant, where a fuller, larger work awaits him.

**Program of the School for Physicians and Health Officers,
April 17 to 28, 1916.**

The sixth annual school for physicians and health officers will be held during the two weeks beginning April 17, to and including April 28, 1916. The first week will be held at the University at Lawrence, and will constitute, in effect, a postgraduate course for physicians in the fundamentals of the medical sciences. The instruction will be given by the members of the faculty of the School of Medicine of the University. The second week will be held at the Bell Memorial Hospital, at Rosedale, Kan., being the clinical department of the School of Medicine of the University of Kansas. The forenoons of each day of the second week will be devoted to clinics, given by members of the staff of the hospital, and the afternoons will be devoted distinctively to public-health work under the auspices of the faculty of the School of Medicine and the State Board of Health, in conjunction with three distinguished sanitarians secured from other states.

The program which follows indicates that a rich treat is in store for the physicians and health officers of the state who will take the time to attend.

The two weeks' instruction is absolutely free of cost to any physician in the state.

It is requested that those who expect to attend any part or all of the session indicate that fact to the secretary of the State Board of Health.

**OUTLINE OF FIRST WEEK'S LECTURES AND DEMONSTRATIONS, AT
LAWRENCE.**

The following program has been arranged with a view of bringing before physicians in general some of the latest scientific achievements and theories in the medical laboratory sciences and closely related sciences.

Arrangements may be made by those enrolled for particular demonstrations in which they may be interested.

The University library, as well as the apparatus and equipment of the School of Medicine, will be at the disposal of all in attendance.

For the hour and place of lectures, see schedule on a succeeding page.

1. Dr. Crumbine will deliver one lecture on the new public health.

2. Professor Coghill will deliver two lectures upon subjects which are of importance in the more recent neurological interpretations:

I. Coördination, correlation and regulation of the central nervous system. A consideration of these nervous functions and their respective mechanisms from the point of view of their relation to the development of behavior.

II. Secretory reflexes. The neuro-glandular mechanism of secretion, its stimulation and control, with applications particularly to the hygienic problems.

3. Professor Nelson will deliver two lectures:

I. Colloids and the colloidal state of matter. The cell, as we know it to-day, is an agglomeration of colloidal material. The phenomena of life and the chemical changes upon which vital activities depend take place between matter in the colloid state of aggregation. In this lecture the preparation and fundamental properties of colloidal solutions will be discussed and illustrated by experiments.

II. The application of some principles of colloid chemistry to problems in medicine and public health. The phenomena of agglutination, toxins and antitoxins, edema, and the purification of sewage will be considered in the light of colloid behavior.

4. Professor Sherwood will demonstrate the Wassermann reaction. The underlying principles of complement fixation with specific antigens will be discussed, including definitions of antigen, amboceptor, and complement. The phenomena of hemolysis, used as an indicator in all complement-fixation reaction, will also be taken up carefully. The Wassermann reaction, involving complement fixation with nonspecific antigens, will be compared to the above and discussed from the standpoint of theory and sources of error. Methods of obtaining blood serum from the patient will also be given, along with a practical demonstration of the Wassermann reaction.

5. Professor Billings will deliver one lecture on the bacteriology of foods in relation to public health. The contamination of oysters, milk and meats will be taken up from this standpoint.

6. Professor Allen will give two demonstrations:

I. Worm parasites of man.

II. Protozoan parasites.

7. Professor Haskins will deliver two lectures on the following topics:

I. Domestic water supply, covering the purity of ground and surface waters in general, the methods of purification, sedimentation, filtration and disinfection, and methods of the prevention of the pollution of water.

II. Sewage disposal. Covering the methods of sewage disposal, septic tank, Imhoff tank, filters and disinfection, as well as the methods of disposal from a single residence.

8. Professor Bailey will deliver two lectures illustrated by lantern slides.

I. Our standard foods.

II. Some little-known food products.

9. Professor Young will deliver one lecture on water bacteriology, with particular reference to our inability to isolate organisms in the typhoid group.

10. Professor Matthews will give three demonstrations of the physiology of the vascular system. The physiology of the heart and blood vessels will be considered in detail, and the action of the following drugs upon the vascular system will be demonstrated upon living anesthetized animals:

I. Digitalis and strophanthin.

II. Epinephrin.

III. Pituitrin and ergot.

The action of other important drugs may be considered and demonstrated if time will permit.

11. Professor Sayre will deliver two lectures on the new pharmacopœia.

12. Doctor Wood will deliver an illustrated lecture on the manufacture of vaccines.

13. Professor Dains will deliver two lectures on the history of medicine. Illustrated.

14. Professor Sundwall will deliver two lectures on anatomy.

15. Professor Naismith will deliver a lecture on the therapeutic uses of exercise.

The schedule follows:

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
9:30	The New Public Health. Crumbie.	The History of Medicine. (Illustrated.) Davis.	Central Nervous System. Cophill.	The History of Medicine. (Illustrated.) Davis.	Secretary Redden. Cophill.
10:30	Colloids and the Colloidal State of Matter. Nelson.	Colloid Chemistry. Nelson.	Anatomy: Special Dissections. Sunderell.	Domestic Water Supply. Hastings.	Anatomy: Special Dissection. Sunderell.
11:30	Our Standard Foods. Bailey.	Some Little Known Food Products. Bailey.	Manufacture of Vaccines. (Illustrated.) Wood.	The New Pharmacopoeia. Seymour.	The New Pharmacopoeia. Seymour.
2:30	Worm Parasites of Man. Allen.	Protozoan Parasites. Allen.	Therapeutic Uses of Exertine. Nelson.	Beverage Disposal. Hastings.	Bacteriology of Food. Billings.
3:30	Weissmann Reaction. Sherwood.	Physiology: Demonstration on Mammals. Digitalis and Scrophularia. Maltby.	Physiology: Demonstration on Mammals. Epinephrin. Maltby.		Water Bacteriology. Young.

THE SECOND WEEK'S PROGRAM, TO BE GIVEN AT ROSEDALE.

Those attending clinics will be divided into classes or groups in order that there may not be overcrowding in any one clinic. Tickets will be issued for clinics at the office of the registrar every afternoon for the clinics of the following day. No tickets will be required for the lectures or demonstrations.

MONDAY, APRIL 24.

Lectures at College Building.

8:00 to 9:00. Registration—Registrar's office.

9:00. Dr. E. J. Curran, Professor of Ophthalmology. *Infectious Diseases of the Eye.*

10:00. Dr. Don Carlos Guffey, Professor of Obstetrics. *Observations on Twilight Sleep.*

11:00. Dr. M. T. Sudler, Professor of Surgery. *Hypertrophied Prostate.*

Clinics at the Hospital and Dispensary.

10:00 to 12:00. Dr. F. E. Murphy, Associate Professor of Medicine. Demonstration of cases—number limited to ten.

Dr. E. J. Curran. *Ophthalmology.* Dispensary—number limited to six.

Lectures at College Building.

1:30. Dr. Mark J. White, Surgeon U. S. Public Health Service, St. Louis Mo. *Malaria.*

2:30. Dr. W. S. Rankin, Secretary North Carolina State Board of Health; Secretary State and Provincial Boards of Health of North America. *Governmental Relations in Sanitary Administration.*

3:30. Dr. Ralph Major, Professor of Bacteriology and Pathology, School of Medicine, University of Kansas. *Rabies.*

4:30. Dr. L. L. Uhls, Professor of Psychiatry. *Heredity.*

TUESDAY, APRIL 25.

Lectures at College Building.

9:00. Dr. A. L. Skoog, Associate Professor of Neurology. *Intracranial Pressure.*

10:00. Dr. P. T. Bohan, Associate Professor of Internal Medicine. *Ulcer of the Stomach.*

11:00. Dr. J. G. Orr, Instructor in Surgery. *Diagnosis of Cancer.*

Clinics at Hospital and Dispensary.

9:00 to 12:00. Dr. Lindsay S. Milne, Professor of Internal Medicine. Demonstrations of cases at dispensary—number limited to ten.

Dr. Joseph E. Sawtell, Professor of Otorhinolaryngology. Surgery, nose, throat, ear; hospital—number limited to fifteen.

Lectures at College Building.

1:30. Dr. W. S. Rankin. *Rural Health Work.*

2:30. Dr. Ralph Major. *The Epidemiology and Pathology of Epidemic Poliomyelitis.*

3:30. Dr. Mark J. White. *Typhoid—Group Infections.*

4:30. Mr. Paul Hansen, Engineer Illinois State Board of Health, Springfield, Ill. *The Sewerage Problem in Small Cities.*

WEDNESDAY, APRIL 26.

Lectures at College Building.

- 9:00. Dr. F. E. Murphy. *Therapeutics of Organic Heart Lesions.*
10:00. Dr. W. K. Trimble, Associate Professor of Clinical Pathology. *Recent Advances in the Treatment of Syphilis.*
11:00. Dr. A. E. Hertzler, Associate Professor of Surgery. *Anatomy and Physiology of the Peritoneum.*

Clinics at Hospital and Dispensary.

9:00 to 12:00. Dr. M. T. Sudler. Surgical clinic; hospital—number limited to fifteen.

Dr. E. J. Curran. Ophthalmological clinic; dispensary—number limited to six.

Dr. Jesse E. Hunt, Associate Professor of Medicine. Pediatric clinic; hospital and dispensary—number limited to ten.

Lectures at College Building.

- 1:30. Dr. Mark J. White. *Typhus Fever.*
2:30. Dr. S. J. Crumbine, Secretary Kansas State Board of Health. *Round Table.*
3:30. Dr. W. S. Rankin. *Rural Health Work—Continued.*
4:30. W. J. V. Deacon, State Registrar of Vital Statistics. *How to Use Vital Statistics in Your Work.*

THURSDAY, APRIL 27.

Lectures at College Building.

- 9:00. Dr. C. Francisco, Assistant in Orthopedic Surgery. *Prophylaxis of Joint Conditions in Childhood.*
10:00. Dr. J. G. Hayden, Assistant Professor of Surgery. *Diagnosis of Disease of the Right Hypochondriac.*
11:00. Dr. Lindsay S. Milne. *Dyspituitarism.*

Clinics at Hospital and Dispensary.

9:00 to 12:00. Dr. Walter B. Sutton, Associate Professor of Surgery. Orthopedic surgery—number limited to fifteen.

Dr. Don Carlos Guffey. Unusual gynecological and obstetrical case histories—number limited to fifteen.

Lectures at College Building.

- 1:30. Dr. W. S. Rankin. *The Medical Profession and Public Health.*
2:30. Dr. Mark J. White. *Tuberculosis.*
3:30. Dr. S. J. Crumbine. *Round Table.*
4:30. Dr. J. J. Sippy, Epidemiologist, Kansas State Board of Health. *Reports.*

FRIDAY, APRIL 28.

Lectures at College Building.

- 9:00. Dr. W. F. Kuhn, Adjunct Professor and Lecturer. *Mental Diseases and the General Practitioner.*
10:00. Dr. C. C. Nesselrode, Assistant in Surgery. *Newer Conceptions of the Cancer Problem.*
11:00. Dr. Walter B. Sutton. *Splints and Their Uses.*

Clinics at Hospital and Dispensary.

9:00 to 12. Dr. D. C. Guffey. Gynecological and obstetrical clinic; hospital—number limited to fifteen.

Dr. E. J. Curran. *Ophthalmology.* Dispensary—number limited to six.

Lectures at College Building.

- 1:30. Dr. Mark J. White. *Diagnosis of Scarlet Fever, Measles and Diphtheria.*
2:30. Dr. W. S. Rankin. Subject to be announced later.
3:30. Dr. Mark J. White. *The Diagnosis of Smallpox, Chicken Pox and Whooping Cough.*

MORNING LECTURES—COLLEGE BUILDING.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
9 A. M.	Curran. Infectious Diseases of the Eye.	Skeop. Intracranial Pressure.	Murphy. Therapeutics of Organic Heart Lesions.	Francisco. Prophylaxis of Joint Conditions in Childhood.	Kuhn. Mental Diseases.
10	Gaffey. Observations on Twilight Sleep.	Bokan. Ulcer of the Stomach.	Tyndale. Recent Advances in Syphilis.	Hayden. Diagnosis of Diseases of the Right Hypochondriac.	Nesslebrode. Newer Conceptions of the Cancer Problem.
11	Sadler. Hypertrophied Prostate.	Orr. Diagnosis of Cancer.	Herzler. Anatomy and Physiology of the Peritoneum.	Milne. Dyspituitarism.	Sutton. Splints and Their Uses.

CLINICS—HOSPITAL AND DISPENSARY.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
9 A. M.	Medicine.—Murphy. Demonstration of Cases. Dispensary.	Sawell. Hospital. (Number limited to 15.)	Surgical Clinic. Sadler. Hospital. (Number limited to 15.)	Orthopedic Surgery. Sutton. Hospital and Dispensary. (Number limited to 15.)	
10 to 12.	Ophthalmology.—Curran. Dispensary. (Number limited to 6.)	Medicine.—M'Intosh. Demonstration of Cases. Dispensary.	Ophthalmology.—Curran. Dispensary. (Number limited to 6.) Pediatric Clinic.—Hunt. Hospital and Dispensary. (Number limited to 10.)	Unusual Case Histories of Gynecological and Obstetrical Cases. Gaffey. Dispensary. (Number limited to 15.)	Ophthalmology.—Curran. Dispensary. (Number limited to 6.)

AFTERNOON LECTURES—COLLEGE BUILDING.

Hour.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
1:30 P. M.	<i>White.</i> Malaria.	<i>Rankin.</i> Rural Health Work.	<i>White.</i> Typhus Fever.	<i>Rankin.</i> Public Health Work.	<i>White.</i> Diagnosis.
2:30	<i>Rankin.</i> Sanitary Administration.	<i>Major.</i> Poliomyelitis.	<i>Crumbine.</i> Round Table.	<i>White.</i> Tuberculosis.	<i>Rankin.</i> Announced later.
3:30	<i>Major.</i> Rabies.	<i>White.</i> Typhoid Group Infections.	<i>Rankin.</i> Rural Health Work.	<i>Crumbine.</i> Round Table.	<i>White.</i> Diagnosis.
4:30	<i>Uhl.</i> Heredity.	<i>Hansen.</i> Sewage Problems in Small Cities.	<i>Deacon.</i> Applied Vital Statistics.	<i>Sippy.</i> Reports.	

New Food Standards and Regulations.

At a regular quarterly meeting of the State Board of Health, held in the office of the secretary, in Topeka, Kan., March 20, 1916, a quorum of the board being present, regulation 35, under the Kansas food and drug act, was amended by adding the following:

II.—FOOD PRODUCTS.

b. Grain and Meal Products.

1. *Noodles, egg noodles*, are dried alimentary pastes made from wheat flour and egg. They contain not less than five per cent (5%) by weight of the solids of whole, sound egg exclusive of the shell, without added color.

2. *Plain noodles, water noodles*, are dried alimentary pastes made from wheat flour without egg, or with less than five per cent (5%) by weight of the solids of whole, sound egg exclusive of the shell, without added color.

Regulation 35 was further revised by substituting the following pertaining to cacao and cacao products for the former standards thereon:

E.—TEA, COFFEE AND CACAO PRODUCTS.

c. Cacao and Cacao Products.

1. *Cacao beans, cocoa beans*, are the seeds of the cacao tree, *Theobroma cacao* L.

2. *Cacao nibs, cocoa nibs, cracked cocoa*, is the roasted, broken cacao bean freed from its shell or husk.

3. *Chocolate, plain chocolate, bitter chocolate, chocolate liquor, chocolate paste, bitter chocolate coatings*, is the solid or plastic mass obtained by grinding cacao nibs without the removal of fat or other constituents except the germ.

Chocolate, plain chocolate, bitter chocolate, chocolate liquor, chocolate paste, bitter chocolate coatings, contains not more than three per cent (3%) of ash insoluble in water, three and fifty hundredths per cent (3.50%) of crude fiber, nine per cent (9%) of cacao starch, and not less than forty-five per cent (45%) of cacao fat.

4. *Sweet chocolate, sweet chocolate coatings*, is chocolate mixed with sugar (sucrose), with or without the addition of cocoa butter, spices, or other flavoring materials.

Sweet chocolate, sweet chocolate coatings, contains in the sugar- and fat-free residue no higher percentage of ash fiber or starch than is found in the sugar- and fat-free residue of chocolate.

5. *Cocoa, powdered cocoa*, is cacao nibs, with or without the germ, deprived of a portion of its fat and finely pulverized.

Cocoa, powdered cocoa, contains percentages of ash, crude fiber and starch corresponding to those in chocolate after correction for fat removed.

6. *Sweet cocoa, sweetened cocoa*, is cocoa mixed with not more than sixty per cent (60%) of sugar (sucrose).

Sweet cocoa, sweetened cocoa, contains in the sugar and fat-free residue no higher percentage of ash, crude fiber or starch than is found in the sugar- and fat-free residue of chocolate.

7. *Milk chocolate, milk cocoa, sweet milk chocolate or sweet milk cocoa*, respectively, is chocolate, cocoa, sweet chocolate or sweet cocoa which contains not less than twelve per cent (12%) of whole-milk solids in the finished product.

The original standards applying to cacao and cacao products are herewith repealed.

In accordance with the authority vested in the Kansas State Board of Health under chapter 266, Session Laws of 1907, as amended by chapter 184, Session Laws of 1909, the following additional regulations are herewith promulgated:

REGULATION 37.

The addition of free tartaric acid to foods is prohibited.

The presence of added free tartaric acid in a food sold or offered for sale is evidence of the violation of this regulation.

REGULATION 38.

The shipment, sale or offering for sale, within the state, of eggs containing more than five per cent (5%) unfit for food, will be considered a violation of the food and drugs law, under section 7 of the act.

In the opinion of the department, eggs which contain yolks stuck to the shell, moldy eggs, black spots, mixed rots, addled eggs, black rots, and any other eggs which consist wholly or in part of a filthy, decomposed or putrid substance, are adulterated.

REGULATION 39.

Certified dyes may be used in foods without objection by the department, provided the use of the dye in food does not conceal damage or inferiority; if damage or inferiority be concealed, the food is adulterated.

The following certified coal-tar dyes may be used in food products in the state, with the above restrictions, providing their presence be declared upon the label:

Red shades:

- 107. *Amaranth.*
- 56. *Ponceau 3 R.*
- 517. *Erythrosine.*

Orange shade:

- 85. *Orange I.*

Yellow shades:

- 4. *Naphthol yellow S.*
- 94. *Tartrazine.*

Green shade:

- 435. *Light green S. F. yellowish.*

Blue shade:

- 692. *Indigo disulfoacid.*

The former regulation regarding the use of coal-tar dyes in food products is hereby amended.

This is to certify that the above regulations were unanimously adopted upon the date and at the place above mentioned.

[Seal.]

S. J. CRUMBINE, M. D., *Secretary.*

At a regular quarterly meeting of the State Board of Health, held in the offices of the secretary in Topeka, Kan., March 20, 1916, a quorum of the board being present, the following regulation was adopted:

REGULATION 15.

In accordance with the authority vested in the Kansas State Board of Health, chapter 230, Session Laws of 1909, and chapter 266, Session Laws of 1907, as amended by chapter 184, Session Laws of 1909, regulation 15 is herewith promulgated.

It is ordered that all bread loaves before removal from the baking room shall be wrapped in clean, unused paper, unprinted, or printed on one side only.

The use of newspapers, or any unclean paper, for the wrapping of any article of food is prohibited.

This is to certify that the above regulation was unanimously adopted upon the date and at the place above indicated.

[Seal.]

S. J. CRUMBINE, M. D., *Secretary.*

Spring Decalogue.

I. Thou shouldst cease thy hybernation and come out in the open, for it is now spring.

II. Thou shouldst remember the springtime is a good time to clear away the rubbish and waste that has accumulated during the winter.

III. Thou shalt not permit any fly-breeding places on thy premises, for thy neighbors will not hold thee guiltless if they are annoyed by thy flies.

IV. Remember clean-up week and keep it wholly; six days shalt thou labor and clean up and paint up, that thy days may be long in the land by reason of preventing sickness and fires.

V. Remember thy friends—the rake and the hoe—for though they produce weariness of the flesh, they also produce strength of arm and good red blood.

VI. Thou shalt dress thyself according to the weather and not according to the almanac.

VII. Thou shalt eat greens and drink an abundance of water to “thin” thy blood, thereby saving thy money usually spent for “blood purifiers,” so that thou canst put something in the collection basket for those who are starving in Europe.

VIII. Fret not thyself because of the smudge your neighbor is making in burning his trash, for the result of his labors will purify the surroundings during the days that are to come.

IX. Thou shalt swat the fly, bat the rat, and rouse mit the mouse.

X. As the people are, so shall the community be. Keep clean!

Sanitation of the Mind.

“Finally, brethren, whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report, if there be any virtue, and if there be any praise, think on these things.”—*Philippians 4:8*.

The prudent, intelligent housewife will not trade with the butcher, baker or groceryman whose place is infested with disease-spreading flies.

Never put meat directly on the ice, but always on a plate, as direct contact with the ice will destroy its flavor.

Every new day is a fine and interesting adventure. Meet it with hope, with cheerfulness, and without anxiety.

Water, air and cleanliness are the chief articles of my pharmacopoeia.—*Napoleon*.

Mother Goose Up to Date.

Tom, Tom was a careless son.

He caught a cold and his nose did run.

With a cough and a sneeze

He spread disease,

And waved his handkerchief in the breeze.

—*Chicago Health Bulletin*.

How Did You Take It?

Did you tackle that trouble that came your way
With a resolute heart and cheerful?
Or hide your face from the light of day
With a craven soul and fearful?
Oh, a trouble's a ton, or a trouble's an ounce,
Or a trouble is what you make it,
And it is n't the fact that you're hurt that counts,
But only *how did you take it?*

You are beaten to earth. Well, well, what's that?
Come up with a smiling face;
It's nothing against you to fall down flat,
But to lie there—that's disgrace.
The harder you're thrown, why, the higher you bounce;
Be proud of your blackened eye.
It is n't the fact that you're licked that counts;
It's *how did you fight—and why?*

And though you be done to the death, what then?
If you battled the best you could,
If you played your part in the world of men,
Why, the Critic will call it good.
Death comes with a crawl, or comes with a pounce;
But whether he's slow or spry,
It isn't the fact that you're dead that counts,
But only *how did you die?*

BULLETIN

OF THE

Kansas State Board of Health.

Published Monthly at the Office of the Secretary of the Board, Topeka, Kan.

S. J. CRUMBINE, M. D., Editor.

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APRIL, 1916.

VOL. XII.

CONTENTS.

Morbidity Reports for February, 1916, page 50.

Morbidity Reports for March, 1916, page 52.

Report of the Division of Food and Drugs for February, 1916, page 54.

Food Analysis No. LVI, page 55.

Bacteriological Examination of Canned Goods, page 71.

Enactment of First Hay Fever Ordinance, page 78.

Bad housing is productive of bad health.

Sags in roof gutters may act as mosquito breeding-places.

Remember, "Clean-up and paint-up week," and keep it wholly.

The unfly-proofed outside toilet is the season's greatest danger.

There is something better than making a living—making a life.—*Abraham Lincoln.*

There is a Jewish saying that God could not be everywhere, and therefore made mothers.

"To cure is the voice of the past; to prevent is the demand of the future."—*Buffalo Bulletin.*

A dozen empty cans and bottles in the back yard or alley may afford breeding-places for enough mosquitoes to plague an entire neighborhood.

It is among the evils—and perhaps not the smallest—of democratic governments that the people must feel before they will see. When this happens they are aroused to action.—*Washington.*

"Window is derived from two words, wind and eye—namely, an eye or hole in the wall for the wind to enter." In this connection, we might spring the modern injunction, "Keep your eye open."

MORBIDITY REPORTS FOR FEBRUARY, 1916.

Number of cases reported from each county.

COUNTY.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pellagra.....	Poliomyelitis.....	Mumps.....	Trachoma.....	Chicken pox.....	Pneumonia.....	Other communicable diseases.....
THE STATE.....	32	119	283	280	1450	239	5	2	1	121	9	257	233	34
Allen.....	0	4	3	6	3	6	0	0	0	1	0	3	0	0
Anderson.....	0	0	0	0	14	4	0	0	0	0	0	0	3	0
Atchison, except ^a Atchison city.....	0	0	1	1	0	0	0	0	0	2	0	2	0	0
Barber.....	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Barton.....	0	8	9	0	0	0	0	0	0	0	0	2	1	0
Bourbon, except ^a Fort Scott.....	0	0	3	0	40	0	0	0	0	0	0	1	1	1
Brown.....	2	2	4	0	31	0	0	0	0	0	0	2	1	0
Butler.....	2	0	1	0	2	0	0	0	0	1	0	0	1	0
Chase.....	0	0	0	0	0	0	0	0	0	0	0	1	2	0
Chautauqua.....	0	1	0	0	0	6	0	0	0	0	0	7	0	1
Cherokee.....	6	3	3	5	26	2	1	1	0	0	0	0	12	3
Cheyenne.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clark.....	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Clay.....	0	0	0	26	37	1	0	0	0	1	0	0	3	2
Cloud.....	1	0	1	1	3	0	0	0	0	0	0	0	6	0
Coffey.....	0	0	6	0	0	0	0	0	0	0	0	0	10	0
Comanche.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cowley.....	1	1	1	0	1	9	0	0	0	0	0	7	0	0
Crawford, except ^a Pittsburg.....	1	3	4	3	121	0	0	0	0	3	0	7	13	1
Decatur.....	0	0	1	1	8	0	0	0	0	0	0	14	1	0
Dickinson.....	0	0	0	6	15	2	0	0	0	0	0	0	4	0
Doniphan.....	1	1	1	0	5	3	0	0	0	3	0	3	1	0
Douglas.....	0	4	22	3	8	0	0	0	0	0	0	1	0	1
Edwards.....	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Elk.....	0	0	0	0	0	3	0	0	0	0	0	0	1	0
Ellis.....	0	3	0	0	0	0	0	0	0	0	0	0	1	0
Ellsworth.....	1	0	1	0	23	1	0	0	0	0	0	7	15	0
Finney.....	0	0	0	0	0	0	0	0	0	0	0	0	4	0
Ford.....	0	1	9	40	16	1	0	0	0	0	0	0	2	3
Franklin.....	0	0	1	0	4	0	0	0	0	0	0	0	2	0
Geary.....	0	0	0	0	0	3	1	0	0	0	0	0	0	1
Gove.....	0	0	0	8	2	0	0	0	0	0	0	0	0	0
Graham.....	0	0	8	1	2	1	0	0	0	0	0	0	2	0
Grant.....	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Gray.....	0	0	0	0	34	0	0	0	0	0	0	0	1	0
Greeley.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Greenwood.....	2	0	13	0	1	0	0	0	0	0	0	0	2	0
Hamilton ^a	0	2	2	1	0	0	0	0	0	0	0	0	4	0
Harper.....	0	1	0	1	10	4	0	0	0	3	0	5	0	0
Harvey.....	0	0	0	0	28	1	0	0	0	0	0	0	0	0
Haskell.....	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	13	16	0	0	0	0	0	2	4	1
Jackson.....	3	0	1	0	1	0	0	0	0	1	0	0	5	0
Jefferson.....	0	0	2	6	0	0	0	0	0	0	0	0	0	0
Jewell.....	0	0	1	15	0	0	0	0	0	0	0	0	0	0
Johnson.....	0	0	3	0	29	0	0	0	0	0	0	2	0	0
Kearny.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kingman.....	0	0	2	0	0	0	0	0	0	4	0	5	0	0
Kiowa.....	0	0	1	0	0	0	0	0	0	0	0	0	6	0
Labette, except ^a Parsons.....	0	0	1	3	6	0	0	0	0	0	0	0	2	0
Lane.....	0	3	0	3	0	0	0	0	0	0	0	0	0	0
Leavenworth, except ^a Leavenworth city.....	0	9	13	2	0	19	0	0	0	0	0	1	0	0
Lincoln.....	1	0	0	0	66	0	0	0	0	0	0	0	0	1
Linn.....	1	1	0	0	16	9	0	0	0	0	0	0	0	0

MORBIDITY REPORTS FOR FEBRUARY, 1916.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pellagra.....	Polioomyelitis.....	Mumps.....	Typhus.....	Chicken pox.....	Pneumonia.....	Other communicable diseases.....
Adams	0	0	7	0	3	0	0	0	0	0	0	3	0	0
Albany	0	1	10	0	5	0	0	0	0	2	0	0	6	0
Albany Hall	0	1	0	0	2	4	0	0	0	0	0	0	4	0
Albany Person	0	0	5	0	29	7	0	0	0	0	0	5	3	0
Albany Le	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Albany ni	0	3	1	1	5	0	0	0	0	0	0	3	0	0
Albany bell	0	1	1	1	0	0	0	0	0	0	0	3	0	0
Albany gomery, except	2	2	1	2	2	0	0	0	0	4	0	3	3	0
Albany leyville	0	1	0	1	0	0	0	0	0	0	0	3	0	0
Albany is	0	2	0	1	0	0	0	0	0	0	0	3	0	0
Albany on	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Albany sha	0	0	3	0	6	0	0	0	0	2	0	3	2	0
Albany ho	0	1	0	7	3	4	0	0	0	0	0	0	1	0
Albany	0	0	0	0	19	0	0	0	0	0	0	41	0	0
Albany on	0	0	1	19	0	2	0	0	0	2	0	3	2	0
Albany e	0	0	3	2	8	0	0	0	0	0	0	0	0	0
Albany rne	0	4	0	8	1	0	0	0	0	0	0	0	1	0
Albany ra	0	0	0	0	63	1	0	0	0	0	0	1	0	0
Albany nes	0	0	4	1	0	0	0	0	0	0	0	0	0	0
Albany ps	0	3	1	2	0	0	0	0	0	0	0	0	1	0
Albany watomie	0	5	14	0	8	1	0	0	0	0	0	2	3	0
Albany	0	0	5	1	1	0	0	0	0	0	0	0	1	0
Albany ins	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Albany , except	0	0	3	0	11	0	0	0	0	0	0	0	0	0
Albany tshinson	1	2	1	3	0	0	0	0	0	0	0	14	0	0
Albany blie	0	0	8	3	40	16	0	0	0	1	0	1	5	0
Albany	0	1	1	0	2	0	0	0	0	0	0	3	0	1
Albany	0	3	8	1	313	26	0	0	0	3	0	1	7	0
Albany s	0	0	0	12	0	0	0	0	0	1	0	0	0	0
Albany	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Albany all	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Albany e	0	0	0	0	41	0	0	0	0	8	0	0	6	0
Albany	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Albany wick, except	0	0	3	0	1	4	0	1	0	0	1	0	0	0
Albany chita	0	3	5	35	1	2	0	0	0	34	0	23	11	1
Albany rd	0	1	2	0	0	2	0	0	0	7	0	1	0	0
Albany nes, except	0	0	1	0	15	5	0	0	0	1	0	0	1	0
Albany paka	1	7	7	5	12	24	0	0	0	18	0	10	8	0
Albany dan	0	0	4	3	2	0	0	0	0	0	0	0	0	0
Albany nan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Albany l	0	1	1	8	1	0	0	0	0	0	0	0	0	0
Albany rd	1	1	0	0	1	2	0	0	0	0	0	1	1	0
Albany on*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Albany ns	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Albany er	1	3	4	1	1	37	0	0	0	0	0	24	13	1
Albany as	0	3	0	1	118	0	0	0	0	2	0	0	0	0
Albany	0	0	0	0	7	0	0	0	0	2	0	0	1	0
Albany unnes	0	0	25	0	71	0	0	0	0	1	0	1	2	2
Albany os	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Albany ington	0	0	3	3	60	0	0	0	0	0	0	0	0	0
Albany ita*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Albany m	0	2	0	1	13	9	0	0	0	2	0	0	6	1
Albany leon	0	1	0	0	1	0	0	0	1	0	0	0	0	0
Albany idotte, except*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Albany neas City	1	12	26	20	9	0	1	0	0	1	0	22	3	0

* No report.
Other communicable diseases: cancer 10, syphilis 3, gonorrhea 6, malaria 3, ophthalmia neonatorum 2, erysipelas 4, chitis 1, diabetes 2, stone worker's asthma 1, gripe 2.

**Report of the Division of Food and Drugs, State Board of Health,
FOR THE MONTH OF FEBRUARY, 1916.**

LEON A. CONGDON, B. S., Chief of Division.

During the month of February, 1916, the traveling inspectors of this division made 926 inspections of all classes of food and drug establishments. They examined 554 scales, 1920 weights and 244 measures, condemning one scale and 71 weights.

Three samples of baking powder were classed as illegal in that they contained free tartaric acid in excess of that naturally found in cream of tartar, generally used for such class of baking powders. A general examination of the lemon extracts found on the Kansas market was made, including 29 brands, five of which were declared misbranded due to the incorrect volume being stated on the label. All samples of these extracts were passed as to quality, no detection of adulteration being noted by our analyst. One sample of powdered sugar contained corn starch and was not labeled correctly. A sample of so-called sorghum and corn syrup was declared misbranded in that the product was not labeled in accordance with our standards and regulations for such compound.

A sample of saltpeter found in a grocery store was found adulterated in that it contained, according to our analyst, alum 41.47 per cent, potassium chloride .41 per cent, and only contained 58.19 per cent potassium nitrate, when it should have been composed entirely of potassium nitrate.

The following table gives the summary of food and drug analyses reported to this division for the month of February, 1916:

FOOD.					DRUGS.				
KIND OF SAMPLE.	Samples analyzed.	Passed.....	Illegal.....	Questionable.	KIND OF SAMPLE.	Samples Analyzed.	Passed.....	Illegal.....	Questionable.
Baking powder.....	4	1	3	.	Beeswax.....	1	1	.	.
Beverages—"Near" beers.....	3	.	.	3	Linseed Oil (boiled).....	1	1	.	.
Canned vegetables, including "swells," etc., for investigation.	25	.	.	.	Linseed oil (raw).....	2	2	.	.
Lemon extract.....	29	24	5	.	"Pep-to-Lac".....	1	.	.	1
Miscellaneous extract.....	4	.	.	4	Quinine sulphate.....	1	1	.	.
"Egg Saver".....	2	.	.	2	Saltpeter.....	1	.	1	.
Olive oil.....	1	1	.	.	Sweet spirits of nitre.....	1	.	1	.
Pancake flour.....	1	1	.	.	"Vitasone".....	1	.	.	1
Powdered sugar.....	2	1	1	.	Miscellaneous fluid extracts for investigation.....	2	.	.	.
Sorghum and corn syrup.....	1	.	1	.	Elixir digestive compound.....	1	.	1	.
Totals.....	72	28	10	9	Tonic cordial compound.....	1	.	1	.
					Totals.....	13	5	4	2

We have received Food Analysis LVI from our University food laboratory, which is transmitted herewith.

The following table gives the summary of the inspections made during the month of February, 1916:

KIND OF PLACE INSPECTED.	Number of inspections.	Sanitary conditions.			
		Good.	Good to fair.	Fair.	Poor.
Market.	323	99	55	161	8
Meat.	55	19	6	30	5
Butcher.	42	11	7	19	4
Meat and fish and poultry.	101	16	19	62	1
Meat and produce.	1			1	
Meat and beverage.	1			1	
Meat and confectionery.	1		1		
Meat and drug store.	3			2	1
Meat produce.	2			2	
Meat nery.	22	3	8	9	2
Meat works.	1			1	
Meat.	2				2
Meat.	4	1	2	1	
Meat on.	8	3		2	3
Meat parlor.	2			2	
Meat e.	83	30	24	20	9
Meat dispensary.	15	6	1	5	3
Meat eous drug stock.	1				
Meat company.	1			1	
Meat drugs.	1	1			
Meat grocery.	4			4	
Meat story.	4			4	
Meat e and spices.	3	2		1	
Meat houses.	13	5	4	4	
Meat il inspections.	19				
Meat spections, including eggs, poultry, hay, feed, seed and venders.	11				
Meat pply.	1			1	
Meat.	45	17	10	16	2
Meat it.	131	50	17	56	8
Meat house.	16	5	1	8	2
Meat it and rooms.	7			7	
Meat restaurant.	2	1		1	
Meat s.	926	269	155	422	49

Per cent Sanitation.
 (Excluding those not classed.)

Per cent good	30.06
Per cent good to fair	17.32
Per cent fair	47.15
Per cent poor	5.47

FOOD ANALYSIS No. LVI.
 APRIL 29, 1916.

E. H. S. BAILEY, Director; W. S. LONG, Analyst in Charge; C. ESTES, Analyst.

BAKING POWDERS.

No. 70662.	Baking Powder.	Free tartaric acid, 9.75 per cent.
No. 70641.	Baking Powder.	Free tartaric acid, 25.5 per cent.
No. 70643.	Baking Powder.	Free tartaric acid, 4.35 per cent.
No. 70644.	Baking Powder.	Free tartaric acid, 4.76 per cent.
No. 70645.	Baking Powder.	Free tartaric acid, none.
No. 70673.	Baking Powder.	Sent in with question as to labeling.

BEVERAGES.

Insp. No. 21394. "Worley's Ginger Ale. Of high medicinal value in its action on the stomach. Rich in flavor. Made from pure ginger root. Absolutely pure water used. It aids digestion, corrects irregularities. Tones up the system." Manufacturer, Capital City Bottling Works, Topeka, Kan. Retailer, F. S. Corbin, Topeka, Kan. Capsicum present.

Insp. No. 21402. Cider. "Clarksville." Sample taken by George D. Bischoff from stock belonging to R. A. Grubbs, Manchester, Kan. Alcohol by volume, 5.78 per cent.

Insp. No. 21428. Grape Juice. Passed.

Insp. No. 21429. "Presto," a beverage. Sent in by George D. Bischoff, Abilene, Kan. Alcohol by volume, 0.99 per cent.

Insp. No. 21430. "Clarksville" Cider. Sent in by George D. Bischoff, Abilene, Kan. Alcohol by volume, 5.78 per cent.

Insp. No. 21431. "Clarksville" Cider. Sent in by George D. Bischoff, Abilene, Kan. Alcohol by volume, 4.22 per cent.

Insp. No. 21455. Strawberry Pop. Passed.

Insp. No. 21456. Ginger Ale. Passed.

Insp. No. 21457. Ginger Ale. Passed.

Insp. No. 21458. Ginger Ale. Passed.

Insp. No. 21459. Ginger Ale. Passed.

Insp. No. 21460. Ginger Ale. Passed.

Insp. No. 21461. Strawberry Pop. Passed.

Insp. No. 21462. Ginger Champagne. Passed.

Insp. No. 21477. Cider, a compound. Manufacturer, National Fruit Products Co., Memphis, Tenn. Jobber, Arkansas City Bottling Works, Arkansas City, Kan. Contains 7.48 per cent alcohol by volume.

Insp. No. 21486. Strawberry Pop. Passed.

Insp. No. 21487b. Lemon Soda. Passed.

Insp. No. 21490b. Strawberry Pop. Passed.

Insp. No. 21495b. Cherry Pop. Passed.

Insp. No. 21497b. Lemon Pop. Manufacturer, Makinney Manufacturing Co., Columbus, Kan. Colored with an uncertified yellow coal-tar dye.

Insp. No. 60254. Cream Pop. Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, L. B. Hoaser, Kansas City, Kan. Saccharin present. Illegal.

Insp. No. 60255. Lemon Pop. Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, L. B. Hoaser, Kansas City, Kansas. Saccharin present. Illegal.

Insp. No. 60256. Strawberry Pop. Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, Mrs. W. McConnell, Kansas City, Kan. Saccharin present. Illegal.

Insp. No. 60333. Strawberry Pop. Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, Mathew Mayer, Kansas City, Kan. Saccharin present. Illegal.

Insp. No. 60335. Strawberry Pop. Passed.

Insp. No. 60337. Orange Soda Pop. Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, J. Waska, Kansas City, Kan. Saccharin present. Illegal.

Insp. No. 60339. Cream Soda Pop. Bottle broken. No analysis.

Insp. No. 60341. Strawberry Pop. Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, E. Burlingame & Steel, Kansas City, Kan. Saccharin present. Illegal.

Insp. No. 60345. Blackberry Flip. Bottle broken on arrival.

Insp. No. 60346. Wild Cherry. Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, S. C. Hoge, Kansas City, Kan. Saccharin present. Illegal.

Insp. No. 60348. Orange Soda. Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, J. E. Hannahan, Kansas City, Kan. Saccharin present. Illegal.

Insp. No. 60350. Strawberry Pop. Passed.

- No. 60352. Cream Soda. Manufacturer, Lemboro & Co., Kansas
Retailer, M. Jabb, Kansas City, Kan. Saccharin present. Illegal.
- No. 60354. Strawberry Pop. Passed.
- No. 60357. Coca Cola Pop. Passed.
- No. 60358. Grape Soda. Manufacturer, Eagle Bottling Co.,
City, Mo. Retailer, A. J. Alfis, Kansas City, Kan. Saccharin present.
- No. 60360. Cherry Pop. Manufacturer, Eagle Bottling Co.,
City, Mo. Retailer, S. Hagecki, Kansas City, Kan. Saccharin
Illegal.
- No. 60365. Cream Soda. Passed.
- No. 60367. Cherry Pop. Passed.
- No. 60369. Strawberry Pop. Passed.
- No. 60371. Root Beer. Passed.
- No. 60373. Lemon Soda. Passed.
- No. 60375. Strawberry Pop. Passed.
- No. 60377. Grape Soda. Passed.
- No. 60380. "Sparkling Crab Cider." Manufacturer, Champagne,
Kansas City, Mo. Retailer, J. W. Blim, Kansas City, Kan. Not
cider. Saccharin present. Illegal.
- No. 60381. Strawberry Pop. Passed.
- No. 60383. Ginger Ale. Passed.
- No. 60385. Birch Beer. Passed.
- No. 60387. Grape Soda. Manufacturer, Gruble Bottling Works,
City. Benzonate of soda present, and not stated. Illegal.
- No. 91488. Cream Soda. Passed.
- No. 91489. Lemon Soda. Manufacturer, Leavenworth Carbona-
Leavenworth, Kan. Benzoic acid present and not stated. Illegal.
- No. 91490. Lemon Soda. Passed.
- No. 91491. Grape Soda. Manufacturer, Leavenworth Carbonating
enworth, Kan. Saccharin present. Illegal.
- No. 91492. Orange Soda. Passed.
- No. 91493. Ginger Ale. Passed.
- No. 91494. Grape Soda. Passed.
- No. 91495. Sarsaparilla. Manufacturer, Leavenworth Carbo-
., Leavenworth, Kan. Saccharin present. Illegal.
- No. 91496. Grape Soda. Passed.
- No. 91497. Cream Soda. Passed.
- No. 91498. Orange Soda. Passed.
- No. 91499. Cherry Pop. Passed.
- No. 91502. Grape Pop. Manufacturer, Leavenworth Carbonating
enworth, Kan. Benzoic acid present and not stated. Illegal.
- No. 91503. Root Beer. Manufacturer, Leavenworth Carbonating
enworth, Kan. Benzoic acid present and not stated. Illegal.
- No. 91504. Strawberry Pop. Passed.
- No. 91505. Lemon Soda. Manufacturer, Leavenworth Carbonat-
leavenworth, Kan. Saccharin present. Illegal.
- No. 91506. Orange Cider. Passed.
- No. 91507. Peach Mellow. Manufacturer, Leavenworth Carbo-
., Leavenworth, Kan. Saccharin present. Illegal.
- No. 91528. Lemon Pop. Passed.
- No. 91529. Ginger Ale. Passed.
- No. 91530. Strawberry Pop. Passed.
- No. 91531. Strawberry Pop. Passed.
- No. 91532. Lemon Pop. Passed.
- No. 100119. "Golden Ribbon Beverage." Passed.
- No. 100120. "White Mule." Sample sent in by C. M. Mills,
Attorney, Phillipsburg, Kan. Bought of H. A. Harmon by H. E.
Alcohol by volume, 36.84 per cent; grams per 100 cc. 29.23.
- No. 100124. "Mead Beverage." Manufacturer, Pabst Brewing
aukee, Wis. Retailer, John Dixon, at pool hall. Sent in by R. B.
County Attorney, Chanute, Kan. Alcohol by volume, 1.55 per cent.

Insp. No. 100125. Beverage. Sent in by County Attorney R. B. Smith, Chanute, Kan. Found in Eagle lodge room, Chanute, Kan. Alcohol by volume, 3.75 per cent.

Insp. No. 100128. "Tempo Beverage." Sent in by R. B. Smith, County Attorney, Chanute, Kan. Alcohol by volume, 0.15 per cent.

Insp. No. 100129. Beverage. Sent in by County Attorney R. B. Smith, Chanute, Kan. Alcohol by volume, 0.20 per cent.

Insp. No. 100130. Beverage. Taken by R. B. Smith, County Attorney, at Owl Drug Store, Chanute, Kan. Alcohol by volume, 0.16 per cent.

Insp. No. 100143. "Tanhauser Beverage." Sample taken by Attorney C. M. Mills, Phillipsburg, Kan. Alcohol by volume, 0.43 per cent.

Insp. No. 21561. "Orange Punch." Passed.

Insp. No. 21606. "Apple Base Cider—A compound. Contains apple juice fermented with corn sugar and water, cane sugar, and 1/10 of 1 per cent benzoate of soda. Guaranteed that contents as originally filled are exempt from internal revenue." Manufacturer, National Fruit Products Co., Memphis, Tenn. Jobber, Arkansas Valley Fruit Co., Wichita, Kan. Retailer, Sol. Hoffine, Murdock, Kan. Alcohol, volume, 7.55 per cent.

Insp. No. 21607. "Apple Base Cider—A compound. Contains apple juice fermented with corn sugar and water, saccharin, 1/10 of 1 per cent benzoate of soda. Guaranteed exempt from internal revenue." Manufacturer, National Fruit Products Co., Memphis, Tenn. Jobber, Great Western Beverage Co., Kansas City, Mo. Retailer, Sol. Hoffine, Murdock, Kan. Alcohol by volume, 8.40 per cent. Saccharin present. Illegal.

Insp. No. 21608. "Apple Base Cider—A compound." Manufacturer, National Fruit Products Co., Memphis, Tenn. Jobber, Arkansas Valley Fruit Co., Wichita, Kan. Alcohol by volume, 7.80 per cent. Saccharin, none detected.

Insp. No. 91534. "Compound Pure Sweet Apple Cider—Contains preservative." Manufacturer, Champagne Cider Works, Kansas City, Mo. Retailer, Fisher Brothers, Kansas City, Kan. Jobber, Eagle Bottling Co., Kansas City, Mo. Alcohol by volume, 0.32 per cent. Sulphites present. Kind and quantity of preservative not stated. Regulation 13 violated. Illegal.

Insp. No. 91584. Cider. Passed.

Insp. No. 100164. Cider. Sent in to Attorney General's office by mayor of Clafin. Submitted to Mr. Congdon by Assistant Attorney General Montgomery. Three samples: Sample A—alcohol, 6.58 per cent; color, amaranth; capsicum present. Sample B—alcohol, 6.39 per cent; color, none; capsicum, none. Sample C—alcohol, 6.39 per cent; color, none; capsicum, none.

Insp. No. 100165 a-b. "Brewmalt is a superior product, made from choicest materials, exceptionally rich in nourishing and strengthening elements; it has a mellow flavor and carries a heavy creamy foam; a peculiarly refreshing and satisfying beverage." Manufacturer, Royal Brewing Co., Kansas City, Mo. Sent in by R. B. Smith, County Attorney, Erie, Kan. Alcohol, 3.49 per cent, 3.76 per cent.

Insp. No. 21499. "Old-fashioned Cloudy Ginger Beer. Non-alcoholic." Manufacturer, Neodesha Bottling Works, Neodesha, Kan. Alcohol by volume, 0.10 per cent. Capsicum present.

CANDIES.

Insp. No. 516. Jelly Beans. Passed.

Insp. No. 517. Butter Scotch. Passed.

Insp. No. 518. Jelly Drops. Passed.

Insp. No. 519. Caramels. Passed.

Insp. No. 520. Phosphate Drops. Passed.

Insp. No. 521. Jelly Beans. Passed.

Insp. No. 522. Fudge. Passed.

Insp. No. 523. Jelly Drops. Passed.

Insp. No. 524. Lemon Drops. Passed.

Insp. No. 525. Wintergreen Wafers. Passed.

Insp. No. 526. Pepsin Chews. Passed.

Insp. No. 546. Peach Fudge. Manufacturer, Catawba Candy Co., Sandusky, O. Retailer, J. J. Murphy, Lawrence, Kan. No flavor of peach.

- . No. 561. Mint Lozenges. Retailer, Charles McCurdy, Lawrence, Starch, 4 per cent.
- . No. 562. Sugar Wafers. Manufacturer, Package Confectionery, Boston, Mass. Retailer, Murphy's Ten Cent Store, Lawrence, Kan. 1.2 per cent.
- . No. 563. Candy Hearts. Retailer, Murphy's Ten Cent Store, Lawrence, Kan. Starch, 33 per cent.
- . No. 564. Lemon Drops. Retailer, Kress Ten Cent Store, Lawrence, Kan. Tartaric acid, 0.62 per cent.
- . No. 570. Mints. Passed.
- . No. 21411. Cocoanut Fudge. Manufacturer, H. L. Runkle Co., Chicago, Ill. Retailer, Kresge & Co., Topeka, Kan. Cereal present. Misbranded.
- . No. 21412. Jelly Beans. Passed.
- . No. 21413. Fudge. Passed.
- . No. 21414. Lemon Drops. Manufacturer, Farley Candy Co., Chicago, Ill. Retailer, Kresge & Co., Topeka, Kan. An imitation of lemon. No flavor.
- . No. 21415. Peanut Squares. Passed.
- . No. 21416. Fruit Tablets. Manufacturer, Novelty Candy Co., Chicago, Ill. Retailer, Kresge & Co., Topeka, Kan. No fruit or flavor of fruit present. Misbranded.
- . No. 21417. Whipped Cream Fudge. Manufacturer, Bradas & Co., Louisville, Ky. Retailer, Kresge & Co., Topeka, Kan. An imitation of whipped cream between layers of chocolate. Misbranded.
- . No. 21418. Bon Bons. Passed.
- . No. 21419. Mint Lozenges. Passed.
- . No. 21420. Coacoanut Squares. Passed.
- . No. 21421. Candy Corn. Passed.
- . No. 21422. "Cordial Pineapple Candy." Manufacturer, Lehmann, Philadelphia, Pa. Retailer, F. W. Woolworth, Topeka, Kan. Pineapple fruit present, but no cordial. Misbranded.
- . No. 21423. Wrapped Cocoanut Cereal Caramels. Manufacturer, Heckerman, Bedford, Pa. Retailer, F. W. Woolworth, Topeka, Kan. Small amount of any cocoanut. Misbranded.
- . No. 21424. Fudge. Passed.
- . No. 21425. Kandy Kids. Passed.
- . No. 21426. Candy. Passed.
- . No. 60291. Jelly Drops. Passed.
- . No. 60292. Marshmallows. Passed.
- . No. 60293. Toasted Marshmallows. Passed.
- . No. 60294. Fudge. Passed.
- . No. 60295. Cinnamon Imperial. Passed.
- . No. 60296. Cocoanut Bon Bon. Passed.
- . No. 60297. Jelly Beans. Passed.
- . No. 60298. Orange Lemon. Passed.
- . No. 60299. Caramels. Passed.
- . No. 60300. Chocolate. Passed.
- . No. 60301. Chocolate Almonds. Passed.
- . No. 60302. Peanut Jelly Rolls. Passed.
- . No. 60304. Chocolate Candy. Passed.
- . No. 60305. Chocolate Chips. Passed.
- . No. 60308. Maple Cream. Passed.
- . No. 60309. Strawberry Cream. Passed.
- . No. 60310. French Cream. Passed.
- . No. 60311. Jelly Ice. Passed.
- . No. 60312. Gum Drops. Passed.
- . No. 60313. Cocoanut Squares. Passed.
- . No. 60314. Fudge. Passed.
- . No. 60323. Moss Banana. Passed.
- . No. 60324. Horn of Plenty. Passed.
- . No. 60325. Assorted Wafers. Passed.

- Insp. No. 60326. Licorice. Passed.
- Insp. No. 60327. Marble Cake. Passed.
- Insp. No. 60328. Marble Taffy. Manufacturer, Loose-Wiles, Kansas City, Mo. Retailer, C. E. Neilson, Le Roy, Kan. Large per cent of weight due to marbles present.
- Insp. No. 60329. Marble Taffy. Manufacturer, Loose-Wiles, Kansas City, Mo. Retailer, C. E. Neilson, Le Roy, Kan. Large per cent of weight due to presence of marbles.
- Insp. No. 60330. Stick Candy. Passed.
- Insp. No. 60331. Cocoanut Beauty. Manufacturer, Loose-Wiles, Kansas City, Mo. Retailer, C. E. Neilson, Le Roy, Kan. An imitation chocolate coating.
- Insp. No. 60395. "Our Own Make" Lemon Drops. Manufacturer, Bronnfield & Son, Iola, Kan. Retailer, G. H. Park, Wayside, Kan. Tartaric acid present. Acidity as tartaric, 0.95 per cent. Illegal.
- Insp. No. 60396. Lemon Drops. Passed.
- Insp. No. 60397. Lemon Drops. Passed.
- Insp. No. 60398. Lemon Drops. Passed.
- Insp. No. 60399. Lemon Drops. Passed.
- Insp. No. 60400. Lemon Drops. Manufacturer, Loose-Wiles Biscuit Co., Kansas City, Mo. Retailer, L. Pitman, Mulvane, Kan. Tartaric acid present. Acidity as tartaric, 0.65 per cent. Illegal.
- Insp. No. 60401. Lemon Drops. Manufacturer, South Western Cracker Co., Wichita, Kan. Retailer, J. M. Fowler, Goddard, Kan. Tartaric acid present. Total acidity as tartaric, 1.05 per cent. Illegal.
- Insp. No. 91538. Lemon Darts. Passed.
- Insp. No. 91539. "Pure Fruit Tablets." Manufacturer, Loose-Wiles Biscuit Co., Kansas City, Mo. Retailer, W. A. Guenther, Lawrence, Kan. Tartaric acid present. Acidity as tartaric, 2.08 per cent. Illegal.
- Insp. No. 91540. Fruit Tablets. Manufacturer, Vogue Candy Co. Jobber, American Drug Syndicate. Retailer, Round Corner Drug Store, Lawrence, Kan. Tartaric acid present. Acidity as tartaric, 0.68 per cent. Illegal.
- Insp. No. 91541. Lemon Drops. Manufacturer and retailer, William Wiedemann, Lawrence, Kan. Tartaric acid present. Acidity as tartaric, 0.75 per cent. Illegal.
- Insp. No. 91542. "Gibson's Mixed Fruit Tablets, Pure Fruit Flavor; Vegetable Color." Manufacturer, E. C. Rich, New York, N. Y. Retailer, F. B. McColloch, Lawrence, Kan. Jobber, Poehler Mercantile Co., Lawrence, Kan. Tartaric acid present. Acidity as tartaric, 1.44 per cent. Illegal.
- Insp. No. 91543. Lemon Drops. Manufacturer, Bunte Candy Co., Chicago. Jobber, Hyde Brokerage Co., Kansas City, Mo. Retailer, W. L. Anderson, Lawrence, Kan. Tartaric acid present. Acidity as tartaric, 0.89 per cent. Illegal.
- Insp. No. 91544. Lemon Fruit Drops. Passed.
- Insp. No. 91545. Orange Tablets. Passed.
- Insp. No. 91546. Lemon Drops. Manufacturer, National Candy Co., St. Louis, Mo. Retailer, S. H. Kress & Co., Lawrence, Kan. Tartaric acid present. Acidity as tartaric, 0.58 per cent. Illegal.
- Insp. No. 91547. Lemon Drops. Passed.
- Insp. No. 91558. Lemon Drops. Passed.
- Insp. No. 91559. Orange Tablets. Manufacturer and retailer, Specialty Candy Factory, Topeka, Kan. Tartaric acid, present. Acidity as tartaric, 0.71 per cent. Illegal.
- Insp. No. 91558. Lemon Drops. Passed.
- Insp. No. 91559. Orange Tablets. Manufacturer and retailer, Specialty Candy Factory, Topeka, Kan. Tartaric acid present. Acidity as tartaric, 0.71 per cent. Illegal.
- Insp. No. 91560. Orange Drops. Manufacturer and retailer, Capital City Candy Co., Topeka, Kan. Tartaric acid present. Acidity as tartaric, 0.63 per cent. Illegal.
- Insp. No. 91561. Lemon Drops. Manufacturer and retailer, Capital City Candy Co., Topeka, Kan. Tartaric acid present. Acidity as tartaric, 0.33 per cent. Illegal.

- p. No. 91562. Orange Tablets. Passed.
 p. No. 91563. Lemon Drops. Manufacturer, Davis Mercantile Co.,
 a, Kan. Tartaric acid present. Acidity as tartaric, 1.20 per cent.

CATSUPS.

- p. No. 70674. Tomato Catsup. Passed.
 p. No. 70675. "Menu Brand Tomato Catsup. Net weight about
 ounces. Made from tomatoes, granulated sugar, onions, spices, and
 r. Guaranteed free from artificial color. Preserved with 1/10 of 1
 nt benzoate of soda." Manufacturer, The Herbauer Co., Toledo,
 Retailer, T. H. Miller, Ransomville, Kan. Molds, 40 per cent of
 High in molds.
 o. No. 70676. "Waldorf Brand Tomato Catsup. Net weight, 11 $\frac{3}{4}$
 . Made from whole ripe tomatoes, sugar, salt, distilled vinegar and
 Contains 1/10 of 1 per cent benzoate of soda." Manufacturer,
 ns Brothers Co., Detroit, Mich. Retailer, W. M. Melchert, Williams-
 Kan. Molds, 48 per cent of fields. High in molds.
 o. No. 70677. "Punch Brand Tomato Catsup. Average net weight
 unces. Made from tomatoes, granulated sugar, onions, spices and
 . Free from artificial color. Contains 1/10 benzoate of soda."
 , Ridenour-Baker Grocery Co., Kansas City, Mo. Retailer, D.
 Mercantile Co., Williamsburg, Kan. Molds, 30 per cent of fields.
 i molds.
 o. No. 70678. "Maple Brand Tomato Catsup. Net weight of con-
 1 $\frac{1}{2}$ ounces." Manufacturer, Libby, McNeil and Libby, Chicago, Ill.
 r, A. F. Dehn, Williamsburg, Kan. Molds, 60 per cent of fields.
 i molds.

CHEESE.

- . No. 657. Cheese. Passed.
 . No. 658. Cheese. Passed.
 . No. 659. Cheese. Passed.
 . No. 660. Cheese. Passed.
 . No. 665. Cheese. Passed.
 . No. 666. Cheese. Passed.

COCOAS.

- . No. 21369. Cocoa. Passed.
 . No. 21371. Cocoa. Passed.
 . No. 21373. Cocoa. Passed.
 . No. 21379. Cocoa. Passed.
 . No. 91618. Cocoa. Passed.

DRIED FRUITS.

- . No. 21391. "Sheep's Head Evaporated Apples." Manufacturer,
 arker Grocery Co., St. Joseph, Mo. Retailer, A. Sheets, Topeka, Kan.
 skins, dry rots, stems, blossom ends, pieces containing worm holes
 m excreta present. Illegal.
 . No. 70669. "Choice Apricots." Jobber, Ridenour-Baker Grocery
 nsas City, Mo. Retailer, Newhouse & Snook, Lane, Kan. Mites
 in large numbers. About half the fruit covered with white mold.
 r food. Illegal.
 . No. 80877. Dried Apples. Passed.
 . No. 80806x. Dried Apples (three samples). Sample taken at State
 l, Osawatomie, Kan. Shipment made direct from Fayetteville, Ark.
 s as SO₂ (mgs. per Kg.)
 46 74 27
 e 26.79% 26.44% 27.24%. Illegal.

EXTRACTS AND FLAVORS.

- No. 527. "Pineapple Syrup Compound." Manufacturer, Astra
 s Co., Carthage, Mo. Retailer, W. A. Dunmire, Lawrence, Kan.
 compound" very inconspicuous.

Insp. No. 528. "Strawberry Syrup Compound." Manufacturer, Astra Products Co., Carthage, Mo. Retailer, W. A. Dunmire, Lawrence, Kan. Word "compound" very inconspicuous.

Insp. No. 529. "Sweet Cherry Syrup Compound." Manufacturer, Astra Products Co., Carthage, Mo. Retailer, W. A. Dunmire, Lawrence, Kan. Word "compound" very inconspicuous.

Insp. No. 530. "Raspberry Syrup Compound." Manufacturer, Astra Products Co., Carthage, Mo. Retailer, W. A. Dunmire, Lawrence, Kan. Word "compound" very inconspicuous.

Insp. No. 531. Grape Syrup. Passed.

Insp. No. 21435. Vanilla. Passed.

Insp. No. 21444. "Hyball Ginger Ale Flavor." Manufacturer, Sethness Co., Chicago, Ill. Retailer, Crown Bottling Co., Pratt, Kan. Capsicum present.

Insp. No. 21453. Vanilla. Passed.

Insp. No. 21494. "Concentrated Syrup Acid." Manufacturer, West India Mfg. Co., St. Louis, Mo. Retailer, Oswego Bottling Works, Oswego, Kan. Contains about 39 per cent phosphoric acid.

Insp. No. 80805. Vanilla Extract. Manufacturer, Stork Mfg. Co., Atchison, Kan. Colored with caramel. Illegal.

Insp. No. 70635. Pineapple Extract.

Insp. No. 91500. Sarsaparilla Syrup. Passed.

Insp. No. 91501. Sarsaparilla Flavor. Passed.

Insp. No. 91512. Lemon Extract. Manufacturer, Davis Merc. Co., Topeka, Kan. Jobber, McCord-Kistler, Topeka, Kan. Retailer, Shyne & Meister, St. Marys, Kan. Deficient in oil lemon. Illegal.

Insp. No. 91513. Vanilla Extract. Passed.

Insp. No. 91517. "Extract of Pineapple Imitation." Manufacturer, Thacher Medicine Co., Chattanooga, Tenn. Retailer, Mary Scott & Son, Loring, Kan. Should not contain added color. Illegal.

Insp. No. 91518. "Extract Strawberry, Imitation." Manufacturer, Thacher Medicine Co., Chattanooga, Tenn. Retailer, Mary Scott & Son, Loring, Kan. Should not contain added color. Illegal.

Insp. No. 91519. "Extract of Banana, Imitation." Manufacturer, Thacher Medicine Co., Chattanooga, Tenn. Retailer, Mary Scott & Son, Loring, Kan. Should not contain added color. Illegal.

Insp. No. 100121. Extract of Pineapple. Passed.

Insp. No. 70642. "Quality Fruit Nectar. Compound." (Three samples—grape, cherry, lemon). Manufacturer, Compound Flavoring Co., Minneapolis, Minn. Retailer, Mrs H. L. Brewer, Herington, Kan. Tartaric acid, grape, 30.6 per cent; cherry, 31.9 per cent; lemon, 33.9 per cent. Illegal.

Insp. No. 100153. Cherry Extract. Has characteristics of a fruit extract.

Insp. No. 70664. Cherry Extract. Has characteristics of a fruit extract.

Insp. No. 21563. Lemon. Passed.

Insp. No. 21592. "Flavoring Extract of Lemon. Alcohol 95 per cent. Manufacturer, Swan-Cline Drug Co., Moline, Kan. Contents 7.50 per cent less than claimed. Alcohol by volume, 85.96 per cent. Misbranded as to net contents and alcohol content.

Insp. No. 21610. Lemon. Passed.

Insp. No. 60405. Lemon. Passed.

Insp. No. 60402. Lemon. Passed.

Insp. No. 60403. "Forbes Quality Pure Extract of Lemon. Perfectly pure. One ounce net." Manufacturer, Jas. H. Forbes Co., St. Louis, Mo. Retailer, C. F. Snicher, Kansas City, Kan. Contents 12.5 per cent less than claimed. Misbranded.

Insp. No. 60404. "I. S. Brand Pure Extract of Lemon. Standard of purity and excellence. Contents 1 oz." Manufacturer, Pfahler Brothers, Kansas City, Mo. Retailer, C. F. Snicher, Kansas City, Kan. Contents 12.5 per cent less than claimed. Misbranded as to net contents.

Insp. No. 60408. Lemon. Passed.

Insp. No. 60409. Lemon. Passed.

- b. No. 60415. Lemon. Passed.
- b. No. 60411. Lemon. Passed.
- b. No. 60422. "Davis' Extract of Lemon. 1½ fluid ounces. Guaranteed to comply with the United States Pure Food Laws." Manufacturer, McCord, St. Joseph, Mo. Retailer, I. N. Davis, Parsons, Kan. Contents 2.5 per cent less than claimed (average of three bottles). Misbranded as to net contents.
- b. No. 60423. Lemon. Passed.
- b. No. 60424. "American Brand Pure Extract of Lemon. 2 oz. net." Manufacturer, J. H. Forbes, St. Louis, Mo. Retailer, American Tea Co., Parsons, Kan. Contents 10.4 per cent less than claimed (average of two bottles). Misbranded as to net contents.
- b. No. 60425. Lemon. Passed.
- b. No. 60426. Lemon. Passed.
- b. No. 60427. Lemon. Passed.
- b. No. 70646. "Dr. Price's Delicious Flavoring Extract of true Lemon. Net contents 1/8 pint." Manufacturer, Price Flavoring Extract Co., Chicago, Ill. Retailer, W. A. Guenther, Lawrence, Kan. Contents 3.12 per cent less than claimed.
- b. No. 70647. "Ferndell Brand Lemon Extract. Two ounces. 85 per cent alcohol by volume." Manufacturer, Sprague Warner, Chicago, Ill. Retailer, W. A. Guenther, Lawrence, Kan. Net contents 3.1 per cent less than claimed. Misbranded as to alcoholic content.
- b. No. 70648. "Congress Brand Extract of Lemon. 1 fluid ounce." Manufactured for K. C. Wholesale Grocery Co., K. C. Mo. Retailer, W. A. Guenther, Lawrence, Kan. Net contents 12.5 per cent less than claimed.
- b. No. 70650. Lemon. Passed.
- b. No. 70651. Lemon. Passed.
- b. No. 70652. Lemon. Passed.
- b. No. 70657. Lemon. Passed.
- b. No. 70658. Lemon. Passed.
- b. No. 91576. Lemon. Passed.
- b. No. 91577. Lemon. Passed.
- b. No. 91578. "Jewel Brand Flavoring Extract. Lemon. 89 per cent alcohol. 2½ fluid ounces." Manufacturer, Jewel Tea Co., Chicago, Ill. Retailer, W. A. Guenther, Lawrence, Kan. Net contents 84.76 per cent alcohol by volume. Misbranded as to alcohol content.
- b. No. 91580. Lemon. Passed.
- b. No. 91582. "Van Duzer's Fruit Extract. Lemon. Two ounces, full measure." Manufacturer, Van Duzer Extract Co., New York, N. Y. Retailer, Buechner Brothers, Topeka, Kan. Net contents 3.12 per cent less than claimed (average of two bottles).
- b. No. 91616. Lemon. Passed.
- b. No. 91624. Lemon. Passed.
- b. No. 100157. Lemon. Passed.
- b. No. 70653. Pineapple. Has characteristics of true fruit extract. Little value as a flavor.
- b. No. 100150. Pineapple. Has characteristics of true fruit extract. Little value as a flavor.
- b. No. 100150-2. Pineapple. Has characteristics of true fruit extract. Little value as a flavor.
- b. No. 100151. Pineapple. Has characteristics of true fruit extract. Little value as a flavor.
- b. No. 70663. "Folger's Golden Gate Imitation Flavoring. Raspberry. 2 oz." Manufacturer, J. A. Folger & Co., San Francisco, Calif. Retailer, H. O. W., 332 S. Minn., Ottawa, Kan. Net contents 1.56 per cent less than claimed. Vegetable color present. Probably contains an extract of true fruit, reinforced with artificial flavor.
- b. No. 70655. Raspberry. Has the characteristics of a true fruit extract. Little value as a flavor.
- b. No. 70661. "Pomona Fruit Co.'s High Grade Flavor, Imitation Raspberry. Two ounces, full measure." Manufacturer, Pomona Fruit Co., Pomona, Kan. Retailer, Hanks & Son, Pomona, Kan. Net contents 1.56 per cent less than claimed. Vegetable color present. Probably contains an extract of true fruit, reinforced with artificial flavor.

Insp. No. 91617. Raspberry. Has the characteristics of true fruit extract. Very little flavoring value.

Insp. No. 100154. Raspberry. Has the characteristics of a true fruit extract. Very little flavoring value.

Insp. No. 100154-2. Raspberry. Has the characteristics of a true fruit extract. Very little flavoring value.

Insp. No. 70660. "Pomona Fruit Co.'s High Grade Flavor. Imitation Flavor of Strawberry. Two ounces, full measure." Manufacturer, Pomona Fruit Co., Pomona, Kan. Retailer, Hanks & Son, Pomona, Kan. Vegetable color present. Probably contains an extract of true fruit, reinforced with artificial flavor.

Insp. No. 70654. Strawberry. Has the characteristics of a true fruit extract. Very little flavoring value.

Insp. No. 100152. Strawberry. Has the characteristics of a true fruit extract. Very little flavoring value.

Insp. No. 100152-2. Strawberry. Has the characteristics of a true fruit extract. Very little flavoring value.

Insp. No. 21484. Vanilla and Tonka. Passed.

Insp. No. 21559. Extract of Vanilla. Added color suspected.

Insp. No. 21580. "Extract of Vanillin Compound. Crescent Brand." Manufacturer, Fritts & Wiehl Co., Chattanooga, Tenn. Retailer, Mrs. J. W. Read, Uniontown, Kan. No resins present. Colored with caramel. Illegal.

Insp. No. 21593. Vanilla. Passed.

Insp. No. 21597. Vanilla. Passed.

Insp. No. 21604. Vanilla. Passed.

Insp. No. 60410. Vanilla. Passed.

Insp. No. 60429. Vanilla. Passed.

Insp. No. 91527. Vanilla. Added prune juice suspected.

Insp. No. 91574. Vanilla. Added color suspected.

Insp. No. 91583. Vanilla. Added color suspected.

Insp. No. 91614. Vanilla. Added color suspected.

Insp. No. 91581. "Rogers' Real Mexican Vanilla. 2 ounces net. Alcoholic contents, 56 per cent. Real vanilla, free from coloring or any foreign ingredients." Manufacturer, Rogers, McMonagle & Rogers, Middletown, N. Y. Retailer, Morns & Myers, Topeka, Kan. Net contents, 3.1 per cent less than claimed, (average of two bottles). Alcohol by volume, 48.5 per cent. Misbranded as to alcoholic contents and net contents. Illegal.

Insp. No. 91633. "Grand Union Extract Vanilla; 2 fluid ounces. Alcohol, 45 per cent." Manufacturer, Grand Union Tea Co., Brooklyn, N. Y. Retailer, Grand Union Tea Co., Topeka, Kan. Caramel present. Alcohol by volume, 36.9 per cent. Illegal.

Insp. No. 91634. Vanilla. Not a normal vanilla extract.

Insp. No. 91635. Vanilla. Passed.

FRUITS, CANNED.

Insp. No. 60389. "Punch Brand Green Gage Plums." Jobber, Ride-nour-Baker Grocery Co., Kansas City, Mo. Retailer, Tim Collyer, Moline, Kansas. Tin, (mgs. per Kg.) 378. Not more than 300 mgs. permitted. Molds, 8 per cent of fields. Bacteria, 4,800,000 per cc. Illegal.

Insp. No. 60389. Raspberries. Passed.

Insp. No. 60391. "White Daisy Gooseberries. Unstemmed." Manufacturer, Geneva Preserving Co., Geneva, N. Y. Retailer, Tim Collyer, Madison, Kan. Jobber, H. Baden, Independence, Kan. A swell. Tin, (mgs. per Kg.) 361. Illegal.

Insp. No. 60393. "Puyallup Selected Loganberries. 12 ounces actual weight of contents. Guaranteed 30 per cent syrup Balling's test. Enameled sanitary can. This can is enameled both inside and outside, thus precluding all possibility of ptomaine poisoning." Manufacturer, Puyallup and Sumner Fruit Growers, Sumner and Puyallup, Wash. Retailer, E. Weese, Madison, Kan. Jobber, H. Baden, Independence, Kan. Tin (mgs. per Kg.) 332. Molds, 25 per cent of fields. Bacteria, 7,200,000 per cc. Statement on the can absurd and misleading. Illegal.

Insp. No. 60394. Red Cherries. Passed.

Insp. No. 70636-1. Lemon Cling Peaches. A swell. Not on sale. Sent in at request of department for investigation. Tin, (mgs. per Kg.) 170. Molds, 8 per cent of fields. Bacteria, 2,400,000 per cc.

Insp. No. 70636-2. Green Gage Plums. A swell. Not on sale. Sent in at request of department for investigation. Tin, (mgs. per Kg.) 400. Molds, 12 per cent of fields.

Insp. No. 70636-3. Black Cherries. A swell. Not on sale. Sent in at request of department for investigation. Tin, (mgs. per Kg.) 108. Molds, 2 per cent of fields. Bacteria, 2,400,000 per cc.

Insp. No. 70636-12. Gooseberries. A swell. Not on sale, and sent in at request of department for investigation. Tin, (mgs. per Kg.) 127. Molds, 30 per cent of fields. Bacteria, 2,400,000 per cc.

GRAPE FRUITS.

Insp. No. 91535. Grape Fruit. Jobber, William F. Helm Commission Co., Kansas City, Mo. Packer, Winterhoreu Packing Co., Tampa, Fla. Retailer, Eli Wilson & Co., Lawrence, Kan. Ratio of citric acid to soluble solids, 1:4.9. Immature.

Insp. No. 91536. Grape Fruit. Fruit decomposed; determinations not made.

Insp. No. 91537. Grape Fruit. Jobber, William F. Helm Commission Co., Kansas City, Mo. Packer, Winterhoreu Packing Co., Tampa, Fla. Retailer, Eli Wilson & Co., Lawrence, Kan. Ratio of citric acid to soluble solids, 1:4.3. Immature.

Insp. No. 91548. "Fancy Florida." Packer, Peacock & Rice, Cocoanut Grove, Fla. Jobber, Stone Produce Co., Topeka, Kan. Ratio of citric acid to soluble solids, 1:5.9. Immature.

Insp. No. 91549. "Fancy Florida." Packer, H. C. Schrader, Jacksonville, Fla. Jobber, Stone Produce Co., Topeka, Kan. Ratio of citric acid to soluble solids, 1:5.2. Immature.

Insp. No. 91550. "Fancy Florida." Shipper, H. C. Schrader, Jacksonville, Fla. Jobber, Stone Produce Co., Topeka, Kan. Ratio of citric acid to soluble solids, 1:5.4. Immature.

Insp. No. 91551. Grape Fruit. Ratio of citric acid to soluble solids, 1:7.3. Passed.

Insp. No. 91552. "Blue Ribbon Brand." Shipper, Cocoanut Grove Citrus Growers Association, Cocoanut Grove, Fla. Ratio of citric acid to soluble solids, 1:4.8. Immature.

Insp. No. 91553. "Blue Ribbon Brand." Shipper, Cocoanut Grove Citrus Growers Association, Cocoanut Grove, Fla. Ratio of citric acid to soluble solids, 1:5.4. Immature.

Insp. No. 91554-5-6. "Fancy Florida." Shipper, Schrader Co., Jacksonville, Fla. Ratios of citric acid to soluble solids, 1:5.5; 1:4.3; 1:5.3. Immature.

Insp. No. 100155. "Ostrich Brand Florida Grape Fruit." Shipper, S. P. Bruton, Fort Myers, Fla. Ratios of citric acid to soluble solids: 1:7.46; 1:5.04; 1:5.60; 1:6.81; 1:5.84; 1:6.17; 1:4.08; 1:6.03; 1:5.77; 1:7.05; 1:6.64; 1:5.31. Ten out of twelve immature.

Insp. No. 91564. Federal No. 19126L. "Arcadia Grape Fruit." Packer and shipper, Chase & Co., Jacksonville and Arcadia, Fla. Ratios of citric acid to soluble solids: 1:5.1; 1:6.0; 1:4.5; 1:4.9. Immature.

The following seven samples were taken from the same shipment:

Insp. No. 91564-2. Ratios of citric acid to soluble solids: 1:4.0; 1:5.9; 1:5.0; 1:5.2. Immature.

Insp. No. 91564-3. Ratios of citric acid to soluble solids: 1:5.8; 1:6.2; 1:5.9; 1:5.2. Immature.

Insp. No. 91564-4. Ratios of citric acid to soluble solids: 1:5.6; 1:5.6; 1:6.0; 1:5.5; 1:6.0; 1:4.6. Immature.

Insp. No. 91564-5. Ratios of citric acid to soluble solids: 1:6.7; 1:5.0; 1:4.6; 1:4.7. Immature.

Insp. No. 91564-6. Oranges. Ratios of citric acid to soluble solids: 1:13.9; 1:8.7; 1:9.6; 1:16.12; 1:16.6; 1:16.7. All passed.

Insp. No. 91564-7. Oranges. Ratios of citric acid to soluble solids: 1:6.3; 1:5.9; 1:12.6; 1:16.90; 1:8.4; 1:17.8. Two out of six immature.

Insp. No. 91564-8. Grape Fruit. Ratios of citric acid to soluble solids: 1:5.8; 1:5.2; 1:6.6; 1:6.1. All immature.

HONEYS.

Insp. No. 21534. Honey. Passed.

Insp. No. 21555. Honey. Passed.

Insp. No. 21556. Honey. Passed.

Insp. No. 21557. Honey. Passed.

Insp. No. 21558. Honey. Passed.

ICE CREAMS.

Insp. No. 534. Vanilla. Passed.

Insp. No. 535. Strawberry. Manufacturer and retailer, G. N. Allendorf, Lawrence, Kan. Fat, 10.0 per cent. Colored with coal-tar dye. Contains added thickener. Illegal.

Insp. No. 536. Strawberry. Manufacturer and retailer, G. N. Allendorf, Lawrence, Kan. Fat, 11.25 per cent. Contained added thickener. Illegal.

Insp. No. 537. Vanilla. Manufacturer and retailer, G. N. Allendorf, Lawrence, Kan. Fat, 13 per cent. Illegal.

Insp. No. 538. Strawberry. Manufacturer and Retailer, G. N. Allendorf, Lawrence, Kan. Fat, 11.50 per cent. Colored with coal-tar dye. Illegal.

Insp. No. 539. Vanilla. Manufacturer and retailer, G. N. Allendorf, Lawrence, Kan. Fat, 13.0 per cent. Illegal.

Insp. No. 540. Strawberry. Manufacturer and retailer, John Coudraken, Lawrence, Kan. Colored with amaranth.

Insp. No. 541. Vanilla. Passed.

Insp. No. 542. Strawberry. Manufacturer, William Wiedemann, Lawrence, Kan. Colored with amaranth.

Insp. No. 543. Vanilla. Manufacturer, William Wiedemann, Lawrence, Kan. Passed as to fat content.

Insp. No. 544. Strawberry. Manufacturer and retailer, G. N. Allendorf, Lawrence, Kan. Colored with erythrosin, but no statement to that effect. Illegal.

Insp. No. 545. Vanilla. Manufacturer and retailer, G. N. Allendorf, Lawrence, Kan. Passed as to fat content.

Insp. No. 546. Vanilla. Manufacturer and retailer, G. N. Allendorf, Lawrence, Kan. Passed as to fat content.

Insp. No. 549. Strawberry. Manufacturer and retailer, G. N. Allendorf, Lawrence, Kan. Fat, 11.75 per cent. Colored with a coal-tar dye. Contained added thickener. Illegal.

Insp. No. 21433. Vanilla. Manufacturer, Kinsley Ice and Ice Cream Co., Kinsley, Kan. Fat, 12.25 per cent. Illegal.

Insp. No. 60303. Vanilla. Manufacturer, W. J. McElwin, Iola, Kan. Fat, 12.7 per cent. Illegal.

Insp. No. 60306. Vanilla. Manufacturer, Iola Creamery Co., Iola, Kan. Retailer, S. R. Burrill, Iola, Kan. Fat, 12.0 per cent. Illegal.

Insp. No. 60307. Vanilla. Passed.

Insp. No. 60315. Vanilla. Passed.

Insp. No. 60320. Vanilla. Passed.

Insp. No. 60321. Vanilla. Passed.

JELLIES, JAMS, AND PRESERVES.

Insp. No. 547. "Dixie Brand Jelly, 70 per cent corn syrup and apple, 30 per cent blackberry flavor." Manufacturer, Bliss Syrup Refining Co., Kansas City, Mo. Retailer, Spot Cash Grocery, Lawrence, Kan. Artificially colored with coal-tar dye. Illegal.

Insp. No. 559. "Dixie Brand Jelly, 70 per cent corn syrup and apple 30 per cent; Blackberry Flavor; vegetable color tract; added phosphate trace." Manufacturer, Bliss Syrup Refining Co., Lawrence, Kan. Artificially colored with coal-tar dye. Illegal.

Insp. No. 560. "Dixie Brand Imitation Jelly, composed of apple juice 25 per cent; glucose 75 per cent; vegetable color trace, phosphoric acid trace, strawberry flavor." Manufacturer, Bliss Syrup Refining Co., Kansas City, Mo. Retailer, Spot Cash Grocery Co., Lawrence, Kan. Artificially colored with coal-tar dye. Illegal.

Insp. No. 565. Preserves. Passed.

Insp. No. 566. Jelly. Passed.

Insp. No. 567. Preserves. Passed.

Insp. No. 568. Jelly. Passed.

Insp. No. 569. Jam. Passed.

Insp. No. 60269. Preserves. Passed.

Insp. No. 60259. Jam. Passed.

Insp. No. 60261. Jelly. Passed.

Insp. No. 60260. Jelly. Passed.

Insp. No. 60262. Jelly. Passed.

Insp. No. 60263. Jelly. Passed.

Insp. No. 60264. Jelly. Passed.

Insp. No. 60265. Jelly. Passed.

Insp. No. 60267. Preserves. Passed.

Insp. No. 60266. Preserves. Passed.

Insp. No. 60268. "Phoenix Brand Pure Apple and Cherry Jam. Guaranteed. Net weight 13 ounces." Manufacturer, Bliss Syrup Refining Co., Kansas City, Mo. Retailer, Hoopes Brothers, Anthony, Kan. Molds 6 per cent of fields. Bacteria, none. Yeasts and spores, 31 per 1/60 cm. (Determination made by the Bacteriological Department of the University of Kansas).

Insp. No. 60279. Jelly. Passed.

Insp. No. 60280. "Sulzberger's Pride Pure Strawberry Jam." Manufacturer, Sulzberger & Sons, Chicago, Ill. Retailer, J. M. Wyatt, Wellington, Kan. Molds, 30 per cent of fields. Yeasts and spores, 3 per 1/60 cm. Bacteria, none. (Determination made by the Bacteriological Department of the University of Kansas).

Insp. No. 60283. Jam. Passed.

Insp. No. 60276. Plums. Passed.

Insp. No. 60275. Jam. Passed.

Insp. No. 60270. "Sphinx Brand Jelly." Manufacturer, Bliss Syrup Refining Co., Kansas City, Mo. Retailer, Hoopes Brothers, Anthony, Kan. Molds, 20 per cent of fields. Yeasts and spores, 30 per 1/60 cm. Bacteria, few. Illegal. (Determination made by the Bacteriological Department of the University of Kansas).

Insp. No. 60271. Preserves. Passed.

Insp. No. 60272. Preserves. Passed.

Insp. No. 60273. Preserves. Passed.

Insp. No. 60274. "F. F. O. G. Brand Red Cherry Preserves." Jobber, Ridenour-Baker Grocer Co., Kansas City, Mo. Molds, none. Yeasts and spores, 45 per 1/60 cm. Bacteria, none. Illegal. (Determination made by the Bacteriological Department of the University of Kansas).

Insp. No. 60284. "Northern Raspberry Jam." Manufacturer, Michigan Refining & Preserving Co., Menominee, Mich. Retailer, Pray & Houens, (?) Wellington, Kan. Jobber, Jett & Wood. Molds, 32 per cent of fields. Yeasts and spores, 25 per 1/60 cm. Bacteria, none. (Determination made by the Bacteriological Department of the University of Kansas).

Insp. No. 60286. "Colonial Brand Pure Fruit Jelly, Currant and Apples." Manufacturer, Sulzberger & Sons Co., Chicago. Retailer, H. W. Andrews, Wellington, Kan. Molds, none. Yeasts and spores, 22 per 1/60 cm. Bacteria, few. (Determination made by the Bacteriological Department of the University of Kansas).

Insp. No. 91524. Jelly. Passed.

Insp. No. 91525. Jelly. Passed.

Insp. No. 91526. Jelly. Passed.

OLIVE OILS.

- Insp. No. 21579. Malaga Olive Oil. Passed.
 Insp. No. 91637. Olive Oil. Passed.
 Insp. No. 91643. "Sweet Oil of Sesame." Manufacturer, Adolf Lange, Leavenworth, Kan. Retailer, Carl Gonser, Wallula, Kan. Misbranded in that the term "sweet oil" should be applied only to olive oil.

PICKLES.

Insp. No. 550. "Monogram Pickles, processed with alum and turmeric." (The word "alum" blotted out.) Manufacturer, Knadler & Lucas, Louisville, Ky. Jobber, Pøehler Mercantile Co., Lawrence, Kan. Aluminum compounds present.

Insp. No. 551. "Jamestown Brand Sweet Pickles, preserved with 1/10 of 1 per cent benzoate of soda; processed with alum and turmeric." (Word "alum" blotted out.) Manufacturer, Knadler & Lucas, Louisville, Ky. Jobber, Pøehler Mercantile Co., Lawrence, Kan. Aluminum compounds present.

Insp. No. 552. "Monogram Brand Pickles, processed with alum and turmeric. (Word "alum" blotted out.) Manufacturer, Knadler & Lucas, Louisville, Ky. Jobber, Pøehler Mercantile Co., Lawrence, Kan. Aluminum compounds present.

Insp. No. 553. "Jamestown Brand Pickles." Stamped "Processed with alum and turmeric." ("Alum" blotted out.) Manufacturer, Knadler & Lucas, Louisville, Ky. Jobber, Pøehler Mercantile Co., Lawrence, Kan. Aluminum compounds present.

Insp. No. 554. "Jamestown Brand Pickles, processed with alum and turmeric." ("Alum" blotted.) Manufacturer, Knadler & Lucas, Louisville, Ky. Jobber, Pøehler Mercantile Co., Lawrence, Kan. Aluminum compounds present.

Insp. No. 555. "Jamestown Brand Sweet Pickles, contains 1/10 of 1 per cent benzoate of soda; processed with alum and turmeric." ("Alum" blotted out.) Manufacturer, Knadler & Lucas, Louisville, Ky. Jobber, Pøehler Mercantile Co., Lawrence, Kan. Aluminum compounds present.

Insp. No. 558. "Pickles, processed with alum". Sent to laboratory on request, by Knadler & Lucas, Louisville, Ky. Aluminum compounds present.

Insp. No. 70624. Pickles. Passed.

Insp. No. 70625. Pickles. Passed.

Insp. No. 70627. Pickles. Passed.

Insp. No. 91521. Pickles. Passed.

Insp. No. 100117. Pickles. Passed.

Insp. No. 70639. Pickles. Passed.

Insp. No. 70640. "German Dill Red Lion Brand. High grade pickles. Net contents 26 ounces." Manufacturer, Marshall Vinegar Co., Marshalltown, Iowa. Retailer, Dunlap Mercantile Co., Dunlap, Kan. Short weight, 1.90 per cent. Aluminum compounds present. Illegal.

Insp. No. 91638. Dill Pickles. Manufacturer, Marshall Vinegar Co., Marshalltown, Iowa. Retailer, A. Ruhlman, Atchison, Kan. Aluminum compounds present. Turmeric present in small quantity. Illegal.

Insp. No. 91639. Sour Pickles. Manufacturer, Marshall Vinegar Co., Marshalltown, Iowa. Retailer, A. Ruhlman, Atchison, Kan. Aluminum compounds present. Turmeric present in small quantity. Illegal.

POWDERED SUGAR.

Insp. No. 70665. Powdered Sugar. Passed.

Insp. No. 70649. "Pickwick Brand Pure Powdered Sugar." Jobber, Kansas City Wholesale Grocer Co., Kansas City, Mo. Retailer, W. A. Guenther, Lawrence, Kan. Contents not powdered, but cohering in one piece. Starch present, 0.08 per cent. Illegal.

Insp. No. 60413. Powdered sugar. Passed.

VEGETABLES.

- Insp. No. 21397. Corn.
 Insp. No. 21427. Corn. Passed.
 Insp. No. 60277. Hominy. Passed.
 Insp. No. 60278. Hominy. Passed.
 Insp. No. 100123. "Annex Brand Sweet Potatoes." Manufacturer, Chandler & Ballard Co., Exmore, Va. Sample brought to office by W. R. Carter, Industrial Institute, Topeka, Kan. Swelled.
 Insp. No. 21471. "Annex Brand Sweet Potatoes. Extra Standard Quality." Manufacturer, Chandler & Ballard Co., Exmore, Va. Retailer, E. L. Buck, Topeka, Kan. Tin, (mgs. per Kg.) 359. Illegal.
 Insp. No. 21472. "Annex Brand Sweet Potatoes." (same as 21471). Tin, (mgs. per Kg.) 344. Illegal.
 Insp. No. 21473. Sweet Potatoes. Tin, (mgs. per Kg.) 100. Passed
 Insp. No. 21474. Sweet Potatoes. Tin, (mgs. per Kg.) 232. Passed.
 Insp. No. 60390. "F. F. O. G. Strawberry Beets." Jobber, Ridenour-Baker Grocer Co., Kansas City, Mo. Retailer, Tom Collyer, Madison, Kan. A "swell." Tin, (mgs. per Kg.) 236. Molds, 4 per cent of fields. Bacteria, 2,400,000 per cc.
 Insp. No. 60392. Sweet Corn. Passed.
 Insp. No. 91565. Sweet Potatoes. Swell. Molds, 6 per cent of fields. Yeasts and spores, 15 per 1/60 cm. Bacteria, 2,400,000, per cc. Tin, (mgs. per Kg.) 146.
 Insp. No. 91566. Sweet Potatoes. Swell. Tin, (mgs. per Kg.) 163. Molds, 20 per cent of fields. Yeasts and spores, 10 per 1/60 cm. Bacteria, 2,400,000 per cc.
 Insp. No. 91567. Sweet Potatoes. Swell. Tin, (mgs. per Kg.) 84. Molds, 12 per cent of fields. Yeasts and spores, 20 per 1/60 cm. Bacteria, 4,800,000 per cc.

The following are swells, not on sale, but sent in at the request of the Department for investigation:

- Insp. No. 70636-4. Pumpkin. Tin, (mgs. per Kg.) 129. Molds, 45 per cent of fields. Yeasts and spores, 35 per 1/60 cm. Bacteria, 7,200,000 per cc.
 Insp. No. 70636-5. Kraut. Tin, (mgs. per Kg.) 52. Molds, 10 per cent of fields. Yeasts and spores, 46 per 1/60 cm. Bacteria, 7,200,000 per cc.
 Insp. No. 70636-6. Tomatoes. Tin, (mgs. per Kg.) 228. Molds, 20 per cent of fields. Yeasts and spores, 20 per 1/60 cm. Bacteria, 7,200,000 per cc.
 Insp. No. 70636-8. Succotash. Tin, (mgs. per Kg.) 621. Molds, 12 per cent of fields. Yeasts and spores, 10 per 1/60 cm. Bacteria, 4,800,000 per cc.
 Insp. No. 70636-9. Tomatoes. Tin, (mgs. per Kg.) 100. Molds, 10 per cent of fields. Bacteria, 2,400,000 per cc.
 Insp. No. 70636-10. (No label). Tin, (mgs. per Kg.) 303.
 Insp. No. 70636-11. (No label). Passed.
 Insp. No. 70636-13. Succotash. Tin, (mgs. per Kg.) 734. Molds, 10 per cent of fields. Yeasts and spores, 10 per 1/60 cm. Bacteria, 9,600,000 per cc.
 Insp. No. 70636-14. Tomatoes. Tin, (mgs. per Kg.) 286. Molds, 60 per cent of fields. Yeasts and spores, 12 per 1/60 cm. Bacteria, 4,800,000 per cc.
 Insp. No. 70636-15. (No label). Tin, (mgs. per Kg.) 459.
 Insp. No. 70636-16. (No label). Tin, (mgs. per Kg.) 791.

VINEGARS.

- Insp. No. 91514. Vinegar. Passed.
 Insp. No. 60376. "Pure Apple Cider Vinegar." Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, L. Dulin, Kansas City, Kan. Total acidity, 2.41 per cent. Illegal.
 Insp. No. 60347. "Pure Apple Cider Vinegar." Manufacturer, Eagle Bottling Co., Kansas City, Mo. Total acidity, 2.69 per cent. Illegal.
 Insp. No. 60287. Vinegar. Passed.

- Insp. No. 60285. Vinegar. Passed.
 Insp. No. 60282. Vinegar. Passed.
 Insp. No. 60281. Vinegar. Passed.
 Insp. No. 60406. "Twenhofel's Guaranteed Pure Cider Vinegar." Manufacturer, C. F. Snicher, Kansas City, Kan. Distilled vinegar, or dilute acetic acid added. Illegal.
 Insp. No. 60414. Cider Vinegar. Passed.
 Insp. No. 61416. Cider Vinegar. Passed.
 Insp. No. 60417. "True Blue Brand Pure Apple Vinegar." Manufacturer, Wyandotte Pickle and Vinegar Co., Kansas City, Kan. Retailer, E. S. Davidson, Kansas City, Kan. Added distilled vinegar, or dilute acetic acid. Illegal.
 Insp. No. 60418. Cider Vinegar. Passed.
 Insp. No. 60419. Cider Vinegar. (Farmer's product). Jobber, Streckland, Kansas City, Mo. Retailer, Charles Lopham, Kansas City, Kan. Acidity, 3.57 per cent. Illegal.
 Insp. No. 60420. "Punch Vinegar." Jobber, Ridenour-Baker Grocery Co., Kansas City, Mo. Retailer, Allison Brothers, Kansas City, Kan. Polarization, +0.4. Not normal cider vinegar.
 Insp. No. 60421. "Old Glory Brand Vinegar." Manufacturer, Emrich Vinegar Co., Kansas City, Mo. Retailer, F. A. Park, Kansas City, Kan. Polarization, +0.7. Not normal cider vinegar.
 Insp. No. 60428. "Monarch Apple Cider Vinegar." Manufacturer, Monarch Vinegar Works, Kansas City, Mo. Retailer, J. L. Trotter, Parsons, Kan. Alkalinity of water soluble ash, 27.2. Polarization, +0.2. Not normal cider vinegar.
 Insp. No. 60432. Cider Vinegar. Jobber, Joplin Wholesale Grocery Co., Joplin, Mo. Retailer, Steffins Brothers, Pittsburg, Kan. Ash, 0.23 per cent (low). Alkalinity of soluble ash, 22.4 cc. N/10 (low). Soluble P_2O_5 , 2.2 mgs. per 100 g. sample (low.) Not normal cider vinegar. Illegal.
 Insp. No. 60433. Cider Vinegar. Passed.
 Insp. No. 60434. Cider Vinegar. Passed.
 Insp. No. 91533. "Pure Apple Cider Vinegar." Manufacturer, Eagle Bottling Co., Kansas City, Mo. Retailer, Peake Brothers, 438 Minn., Kansas City, Kan. Acidity as acetic, 2.42 per cent. Illegal.
 Insp. No. 91568. "Pure Apple Cider Vinegar." Manufacturer, S. E. Parisa, Piper, Kan. Retailer, Gregory & Stockoff, Piper, Kan. Acetic acid, 3.43 per cent. Illegal.
 Insp. No. 91569. Cider Vinegar. Passed.

MISCELLANEOUS.

- Insp. No. 21432. Graham Flour. Passed.
 Insp. No. 60316. White Glaze. Passed.
 Insp. No. 70625. Sour Onions. Passed.
 Insp. No. 91508. Maple Sugar. Advertised and sold as one pound. Retailer, Warren Casey, Atchison, Kan. Short weight. Illegal.
 Insp. No. 100118. Wheat. Sent in by J. J. Stevens, Dalton, Kan. This wheat was treated with gasoline and bromine. Glutin, 10 per cent.
 Insp. No. 100122. "Snow Mellow." Sent in by the Hipolite Co., St. Louis, Mo. A compound of starch and gelatin.
 Insp. No. 100141. Celery. Sent in by T. H. Jamieson, County Health Officer, Wellington, Kan. Retailer, W. Andrews, Wellington, Kan. Jobber, Maxey Product Co., Wellington, Kan. Salt of copper present on surface.
 Insp. No. 21500. "Ginger Beer Syrup." Manufacturer, Jacob House & Sons, Buffalo, N. Y. Jobber, Neodesha Bottling Works, Neodesha, Kan. Capsicum present.
 Insp. No. 100156. Mustard. Passed.
 Insp. No. 100149. Rice. Passed.
 Insp. No. 91523. "Head Rice." Jobber, Dolan Mercantile Co., Atchison, Kan. Retailer, J. C. Norris, Winchester, Kan. Coated with glucose and talc. Illegal.
 Insp. No. 70638. "White Star Rice." Jobber, Winfield Wholesale

Grocery Co., Winfield, Kan. Retailer, C. J. Gram, Halstead, Kan. Coated with glucose and talc. Illegal.

Insp. No. 91636. "D. Ghirardelli's Sweet Ground Chocolate and Cocoa. ½ pound net. Through our process the mineral constituents are increased about 1 per cent, improving the digestibility and developing the flavor. Manufacturer, D. Ghirardelli Co., San Francisco, Cal. Retailer, J. Bigen-walt, Atchison, Kan. Examination shows it to be a sweetened cocoa. Illegal.

Insp. No. 91613 and 91612. Vanilla Beans. Used in laboratory for making extract.

Insp. No. 91575. Maple Cream. Passed.

Insp. No. 91557. Tuna Fish. Tin, (mgs. per Kg.) 45. Passed.

Insp. No. 70666. "Bliss Delicious Marshmallow Brand Syrup. Com-posed of corn syrup, crystal cane sugar syrup." Manufacturer, Bliss Syrup Refining Co., Kansas City, Mo. Retailer, W. R. Hunt, Garnett, Kan. Con-tains either a diluted corn syrup, a diluted sugar syrup, or both. Illegal.

Insp. No. 70637. "La Rouchelle Sardines." Manufacturer, California Fish Co., Los Angeles, Cal. Retailer, Carl F. Fey & Co., Halstead, Kan. Tin, (mgs. per Kg.) in three samples: 508; 946; 514. Illegal.

Insp. No. 70656. "Velva Pure Country Sorghum and Corn Syrup." Manufacturer, Penick & Ford, Ltd., New Orleans, La. Retailer, J. Hunzicker, Lawrence, Kan. Regulation 6 violated in that proportions are not stated on the label. Illegal.

Insp. No. 91629. Fresh Oysters. Passed.

Insp. No. 21464 and 21465. "Wards Magic Egg Saver. Saves the cost of eggs. Each package will in our opinion serve the purpose of four dozen eggs, except in nutrition, and will save, according to our calculations, the cost of over \$1 worth of eggs. Net weight 6.5 ounces when packed. Be sure and follow directions closely. The coloring used in this preparation is an uncertified coal-tar product. Ward's Magic Egg-Saver is not a substitute for baking powder, beware of imitations. Guaranteed to comply with all pure food laws. This preparation contains the following: American maize flour, egg albumen, powdered milk, rice flour, potato flour, sodium, sodium-bicarbonate, amaranth (uncertified), naphthol yellow (uncertified), orange yellow (uncertified). Not a substitute for eggs." Manufacturer, Ward & Co., Chicago, Ill. Protein, 1.94 per cent.

Insp. No. 21553. Almonds. Passed.

UNOFFICIAL.

In addition, the following unofficial samples were analyzed in the labora-tory:

Twenty-four milks, under ordinance of the City of Lawrence.

Cheese, for Professor E. H. S. Bailey.

Coca Cola, for W. C. T. U., Chanute, Kan.

Four extracts, for V. Alquist, Clay Center, Kan.

Five jellies, for Professor E. H. Bailey.

Twenty-six samples for the state prison, as follows: vinegar, corn starch, corn, bread, raisins, tomatoes, sirup, lemon, pepper, figs, baking powder, cheese, apples, rice, pickles, lard, cinnamon, ginger, spaghetti, oleomargarine, mustard, corn meal, coffee, tea and vanilla.

W. S. LONG, *Analyst in Charge.*

Bacteriological Examination of Canned Goods.

By PROF. F. H. BILLINGS.

Canned goods may manifest their unsanitary condition by being swelled, due to gas pressure within, or by being sour or putrid, or by containing microorganisms dead or alive in excessive numbers.

Gas in swelled goods arises chiefly as a decomposition product of the activity of bacteria and yeasts. They are practically

ubiquitous and find entrance to the can with the material, or through tiny openings resulting from faulty soldering.

One purpose of processing is to heat the contents of cans to such a temperature that all life be destroyed and the mass rendered sterile. Difficulties are encountered occasionally because of particularly resistant properties of certain bacterial spores. These may withstand the temperature used in processing.

The condition of the food material before canning is worthy of consideration from the standpoint of clean food. If it has been carelessly handled and allowed to ferment there may be by-products of decomposition that would render the food unfit to eat.

The presence of an excessive number of microorganisms, dead or alive, in a canned product may be explained in several ways:

First, the contents may have been the feeding-ground of numerous bacteria, yeasts or molds which would render it a partially decomposed mass before being canned. Processing properly done would destroy the life of the microorganisms, but some of their by-products might remain unaltered, while the dead cells would be present for observation and enumeration under the microscope. A canned product of this sort might show no evidence to the unaided senses of its inferior quality, either by the external appearance of the can or by casual examination of the contents.

Secondly, excessive numbers of organisms may be due to failure of the processing to render a sterile product, so that fermentation of some sort would occur in the can. By-products of decomposition, as gases, would produce a "swell," while acids would produce a "sour." Putrefactive decomposition would cause vile-smelling products. Should the can remain unopened for a considerable length of time the microorganisms that cause the fermentation would probably die, leaving their remains to be observed under the microscope, as in the first instance.

Thirdly, fermenting organisms may reach the contents of a can supposedly thoroughly sealed, through some tiny opening due to defective soldering. These would then set up a fermentation, as in the second instance.

Living organisms in a canned product may be detected by planting some of the contents in suitable culture media. Dead organisms are detected only by direct microscopical examination, and this method, of course, does not take into account in which one of the three ways the bacteria obtained entrance. The presence of living organisms indicates carelessness in processing or sealing.

According to Duckwall,* the gas in cans with swelled ends has not necessarily arisen through the activity of microorganisms, though undoubtedly they are by far the most frequent cause. In the case of fruits and vegetables, inadequate processing may leave the seeds, if present, or some of the cells in a living condition, with the result that gases would arise through the activity of the cells in respiration. Swelled goods in which there is no evidence of contamination may be accounted for in this way.

Quantitative methods for determining the dead microorganisms in ketchups have been prepared by B. J. Howard,† of the United States Department of Agriculture. These methods, crude as they are, give some indication of the sanitary condition of the ketchup and of the care used in its preparation. The plan consists of a direct count made under the microscope, with the aid of a blood counter. It is, of course, a question whether a method designed for ketchup should be extended to include other types of preserved foods. Especially is this true when standards are taken into consideration. The methods and standards proposed by Howard have nevertheless been used with the hope that they would shed some light on the condition of the foods examined.

Mold fragments as used below means pieces of mycelium. The per cent refers to the proportion of microscopic fields in which at least one fragment is seen. For ketchup, not over 25 per cent of the fields examined should show fragments, provided the methods used in its preparation have been reasonably clean.

Yeasts and spores are not distinguished and are estimated as number per one-sixtieth of a cubic millimeter. Reasonably clean methods for commercial ketchups ought to result in not over 25 per one-sixtieth c.mm.

Dead bacteria are estimated as number per cubic centimeter, the volume actually observed being small and the factor large (2,400,000). Owing to the difficulty in identifying bacterial forms and of distinguishing them from similarly shaped particles of food, the value of the bacterial count is somewhat doubtful. The maximum permitted for ketchup is 25,000,000 per c.c. Bacterial numbers in the following list refer to dead bacteria unless otherwise specified.

Insp. No. 21120. Peaches. Mountain Brand. Can, swell. Contents apparently in fair condition. Living yeasts present. Smear showed dead bacteria.

*E. W. Duckwall. *Canning and Preserving with Bacteriological Technic.*

†B. J. Howard. *Tomato ketchup under the microscope*, circular No. 68, Bureau of Chemistry, U. S. Dept. Agr.

Insp. No. 21471. Sweet Potatoes. Annex Brand. Can, swell. Contents ill-smelling and apparently bad. Living molds present. Dead bacteria on smear.

Insp. No. 21472. Sweet Potatoes. Annex Brand. Can, swell. Contents ill-smelling and apparently bad. Dead bacteria numerous.

Insp. No. 21473. Sweet Potatoes. Annex Brand. Can, swell. Contents ill-smelling and apparently bad. Dead bacteria numerous.

Insp. No. 21474. Sweet Potatoes. Annex Brand. Can, swell. Contents ill-smelling and apparently bad. Living molds present. Dead bacteria numerous.

Insp. No. 60389. Green Gage Plums. Punch Brand. Can, swell. No living bacteria. Mold fragments, 8 per cent. Bacteria, 4,800,000 per cc. Contents apparently good.

Insp. No. 60389. Raspberries. F. F. O. G. Brand. Can, swell. Contents apparently good. No living bacteria. Mold fragments, 25 per cent. Bacteria, 2,400,000 per cc.

Insp. No. 60390. Beets. F. F. O. G. Brand. Can, swell. Living bacteria, none. Contents apparently good. Mold fragments, 4 per cent. Bacteria, 2,400,000 per cc.

Insp. No. 60391. Gooseberries. White Daisy Brand. Can, swell. Contents apparently good. Living molds, numerous. No living bacteria. Dead bacteria numerous.

Insp. No. 60392. Sweet Corn. Snow Ball Brand. Can, swell. Contents apparently good. Living molds present. Mold fragments, 6 per cent. Bacteria, 2,400,000 per cc.

Insp. No. 60393. Loganberries. Famous Puyallup Brand. Can, swell. Contents apparently good. Living molds present. Mold fragments, 25 per cent. Bacteria, 7,200,000 per cc.

Insp. No. 60394. Cherries. Mistletoe Brand. Can, swell. Contents apparently good. No living bacteria. Dead bacteria in smear.

Insp. No. 70557. Asparagus. Santa Cruz Brand. Can old, but not swelled. No living bacteria. No mold fragments and but few bacteria. Three yeasts and spores per 1/60 cmm.

Insp. No. 70557. Apples. Air Line Brand. Can, swell. Contents apparently good. No living bacteria. Mold fragments, 2 per cent. Yeasts and spores, 5 per 1/60 cmm. Bacteria, 1,000,000 per cc.

Insp. No. 70557. Corn Syrup Apple Butter. Rex Brand. In glass. No living bacteria. Mold fragments, 26 per cent. Bacteria, 18,000,000 per cc. Yeasts and spores, 29 per 1/60 cmm.

Insp. No. 70557. Pork and Beans. Eureka Brand. Can, swell. Contents ill-smelling and apparently spoiled. Living yeasts present. Dead bacteria in smear.

Insp. No. 70557. Cherries. Hunt's Supreme Quality. Can, swell. Contents apparently good. No living bacteria. Only a few dead molds and yeasts.

Insp. No. 70557. Tomatoes. Zat-Zit Brand. Can, swell. Contents ill-smelling and apparently spoiled. Living bacteria present. Living molds present. Dead bacteria in smear.

Insp. No. 70557. Corn. Mrs. Grimes Brand. Can, swell. Contents ill-smelling and apparently spoiled. Living bacteria present.

Insp. No. 70557. Beets. Lazarre Brand. Can, swell. Contents ill-smelling, apparently spoiled. Living bacteria and yeasts present.

Insp. No. 70557. Hominy. Polk's Best. Can, swell. Contents ill-smelling and in rotten condition. Living bacteria present.

Insp. No. 70557. Pumpkin. Old Grimes Brand. Can, swell. Contents ill-smelling and apparently spoiled. Living bacteria present. Living molds present.

Insp. No. 70557. Hominy. Our Silent Salesman. Can not a swell. Contents doubtful. Bacteria and yeasts in smear. No living organisms present.

Insp. No. 70557. Molasses. Richelieu Brand. Can, swell. Contents apparently normal. Living bacteria present.

Insp. No. 70636. Kraut. High Up Brand. Can, swell. Contents apparently good. No living bacteria or molds. Mold fragments, 10 per cent. Bacteria, 7,200,000. Yeasts and spores, 46 per 1/60 cmm.

Insp. No. 70636. Peaches. Montro Brand. Can, swell. Contents apparently good. No living bacteria or molds. Mold fragments, 8 per cent. Bacteria, 2,400,000.

Insp. No. 70636. Green Gage Plums. Can, swell. Contents apparently good. No living bacteria or molds. Mold fragments, 12 per cent.

Insp. No. 70636. Cherries. Golden Brand. Can leaky. Contents apparently good. No living bacteria or molds. Mold fragments, 2 per cent. Bacteria, 2,400,000 per cc.

Insp. No. 70636. Pumpkin. High Up Brand. Can, swell. Contents apparently good. Living molds present. Mold fragments, 45 per cent. Bacteria, 7,200,000 per cc. Yeasts and spores, 35 per 1/60 cmm.

Insp. No. 70636. Gooseberries. No label. Can, swell. Contents apparently good. Living molds present. Mold fragments, 60 per cent. Bacteria, 4,800,000 per cc. Yeasts and spores, 160 per 1/60 cmm.

Insp. No. 70636. Tomatoes. Maryland Chief Brand. Can, swell. Contents apparently good. Living molds present. Mold fragments, 20 per cent. Bacteria, 7,200,000 per cc. Yeasts and spores, 20 per 1/60 cmm.

Insp. No. 70636. Blackberries. Jumbo Brand. Can, swell, old. Contents ill-smelling and spoiled. Living molds present. Mold fragments, 60 per cent. Bacteria, 4,800,000 per cc. Yeasts and spores, 22 per 1/60 cmm.

Insp. No. 70636. Succotash. Derby Brand. Can, swell. Contents apparently good. No living bacteria or molds present. Mold fragments, 12 per cent. Bacteria, 4,200,000 per cc. Yeasts and spores, 10 per 1/60 cmm.

Insp. No. 70636. Tomatoes. Western Star Brand. Can, swell. Contents apparently good. No living bacteria, or molds. Mold fragments, 10 per cent. Bacteria, 2,400,000 per cc.

Insp. No. 70636. Cherries. No label. Can, swell. Contents with disagreeable taste. Living molds present. Mold fragments, 20 per cent. Yeasts and spores, 32 per 1/60 cmm.

Insp. No. 70636. Cherries. No label. Can, swell. Taste disagreeable. Living molds present. Mold fragments, 10 per cent. Yeasts and spores, 20 per 1/60 cmm.

Insp. No. 70636. Gooseberries. C. H. Godfrey and Sons. Can, swell. Contents apparently good. Living molds present. Mold fragments, 30 per cent. Bacteria, 2,400,000 per cc.

Insp. No. 70636. Succotash. Derby Brand. Can, swell. Contents apparently good. No living bacteria or molds. Mold fragments, 10 per cent. Bacteria, 9,600,000 per cc. Yeasts and spores, 10 per 1/60 cmm.

Insp. No. 70636. Tomatoes. Big Brand. Can, old and swollen. Contents ill-smelling and spoiled. Living molds present. Mold fragments, 60 per cent. Bacteria, 4,800,000 per cc. Yeasts and spores, 12 per 1/60 cmm.

Insp. No. 70636. Gooseberries. No label. Can, swell. Contents apparently good. Living molds present. Mold fragments, 6 per cent.

Insp. No. 70637. Sardines. La Rochelle. Can slightly swollen. No indication of living or dead organisms. Contents appeared good.

Insp. No. 70637. Sardines. La Rouchelle. Can swollen. Contents apparently good. No indication of living or dead organisms.

Insp. No. 70637. Sardines. La Rouchelle. Can swollen. Contents apparently good. No indication of living or dead organisms.

Insp. No. 70674. Tomato Catsup. Tourist Brand. Contents apparently good so far as taste and odor. Mold fragments, 24 per cent. Bacteria, 4,800,000 per cc. Yeasts and spores, 4 per 1/60 cmm.

Insp. No. 70675. Tomato Catsup. Menu Brand. Contents apparently good so far as taste and odor. Mold fragments, 40 per cent. Bacteria, 2,400,000 per cc. Yeasts and spores, 3 per 1/60 cmm.

Insp. No. 70676. Tomato Catsup. Waldorf Brand. Contents apparently good. Mold fragments, 48 per cent. Bacteria, 2,400,000 per cc. Yeast and spores, 8 per 1/60 cmm.

Insp. No. 70677. Tomato Catsup. Punch Brand. Contents apparently good. Mold fragments, 30 per cent. Bacteria, 4,800,000 per cc. Yeasts and spores, 10 per 1/60 cmm.

Insp. No. 70678. Tomato Catsup. Maple Brand. Contents apparently good. Mold fragments, 60 per cent. Bacteria, 2,400,000 per cc. Yeasts and spores, 12 per 1/60 per cmm.

Insp. No. 90676. Blackberries. Pride of Arundel. Can, swell. Living bacteria or molds, none. Dead bacteria and yeasts in smear.

Insp. No. 90677. Blackberries. Pride of Arundel. Can, swell. Living bacteria or molds, none. Dead bacteria and yeasts in smear.

Insp. No. 91226. Peaches. Hunt's Supreme Quality. Can not swollen. Contents apparently good. No indication of bacteria molds or yeasts, living or dead.

Insp. No. 91231. Peach Butter. Cupid Brand. No living bacteria or molds. Mold fragments, 6 per cent. Bacteria, 2,400,000 per cc. Yeasts and spores, 9 per 1/60 cmm.

Insp. No. 91233. Peaches. Sun Flower Brand. Can, not swelled. Contents apparently good. No living bacteria or molds. A very few dead bacteria and yeasts in smear.

Insp. No. 91235. Peach Butter. Genessee Brand. In glass. Mold fragments, 2 per cent. Bacteria, 4,800,000 per cc. Yeasts and spores, 418 per 1/60 cmm.

Insp. No. 91250SP4-1. Peaches. Semi-tropic Brand. Can, swell. No living bacteria or molds. Dead yeasts and bacteria in smear.

Insp. No. 91250SP5-1. Peaches. Semi-tropic Brand. Can, swell. No living bacteria. Living molds present. Dead bacteria present in smear.

Insp. No. 91250SP6-1. Peaches. Semi-tropic Brand. Can, swell. No living bacteria present. Living molds present. Dead yeasts and bacteria in smear.

Insp. No. 91250SP7-1. Peaches. Semi-tropic Brand. Can, swell. Can, swell. No living bacteria or molds. Mold fragments, 4 per cent. Bacteria, 2,000,000. Yeasts and spores, 16 per 1/60 cmm.

Insp. No. 91250SP8-1. Peaches. Semi-tropic Brand. Can, swell. No living bacteria or molds. Mold fragments, 12 per cent. Bacteria, 4,000,000. Yeasts and molds, 22 per 1/60 cmm.

Insp. No. 91252S101. Peaches. No label. Can, swell. No living or dead bacteria or molds. Yeasts and spores, 13 per 1/60 cmm.

Insp. No. 91252S11-1. Peaches. Can, swell. No label. No living organisms present. Dead bacteria, few. Yeasts and spores, 7 per 1/60 cmm.

Insp. No. 91254S12-1. Peaches. No label. No living bacteria or molds. Few dead bacteria and no molds. Yeasts and spores, 2 per 1/60 cmm.

Insp. No. 91254S13-1. Peaches. No label. Can, not a swell. No living organisms present and but very few dead ones.

Insp. No. 91256S14-1. Peaches. Lilac Brand. Can, not a swell. Contents appeared good. No living or dead bacteria or molds. Yeasts and spores, 3 per 1/60 cmm.

Insp. No. 91256S15-1. Peaches. Lilac Brand. Can, not a swell. No living or dead bacteria or molds. Yeasts and spores, 11 per 1/60 cmm.

Insp. No. 91256S16-1. Peaches. Lilac Brand. Can, not a swell. No living bacteria or molds present. Yeasts and spores, 22 per 1/60 cmm.

Insp. No. 91256S17-1. Peaches. Lilac Brand. Can, not swelled. No living bacteria or molds present. Yeasts and spores, 27 per 1/60 cmm.

Insp. No. 91258S2-1. Blackberries. In glass. No living bacteria or molds present. No mold fragments and but few dead bacteria. Yeasts and spores, 42 per 1/60 cmm.

Insp. No. 91258S2-2. Blackberries. In glass. Berries considerably broken up. No living bacteria or molds. Bacteria, 2,400,000 per cc. Few mold fragments. Yeasts and spores, 54 per 1/60 cmm.

Insp. No. 91260S2-3. Black Raspberries. In glass. Contents apparently good. Berries badly broken. No living bacteria or molds. Few dead bacteria. Yeasts and spores, 36 per 1/60 cmm.

Insp. No. 91260S24. Black Raspberries. In glass. No living bacteria or molds.

Insp. No. 91262S29. Black Raspberries. Faust Brand. Can, swell. No living bacteria present. Living molds present. Dead bacteria few or none. Mold fragments, 2 per cent. Yeasts and spores, 24 per 1/60 cmm.

Insp. No. 91262S25. Black Raspberries. Faust Brand. Can, swell. No living bacteria. Living molds. Few dead bacteria. Yeasts and spores, 30 per 1/60 cmm.

Insp. No. 91262S26. Black Raspberries. Faust Brand. Can, swell, leaky. No living bacteria or molds. Few dead bacteria and no mold fragments. Yeasts and spores, 21 per 1/60 cmm.

Insp. No. 91262S27. Black Raspberries. Faust Brand. Can, a swell and leaky. No living or dead bacteria. Mold fragments, 16 per cent. Yeasts and spores, 72 per 1/60 cmm.

Insp. No. 91262S28. Black Raspberries. Faust Brand. Can, a swell and leaky. No living bacteria or molds. Dead bacteria few or none. Mold fragments, 8 per cent. Yeasts and spores, 18 per 1/60 cmm.

Insp. No. 91264.211-2. Black Raspberries. Senco Brand. Can, a swell. No living bacteria or molds. Few dead bacteria. Mold fragments, 6 per cent. Yeasts and spores, 15 per 1/60 cmm.

Insp. No. 91264-212. Black Raspberries. Senco Brand. Can, a swell. No living bacteria. Living molds present. Dead bacteria few. Mold fragments, 18 per cent. Yeasts and spores, 54 per 1/60 cmm.

Insp. No. 91264L213. Black Raspberries. Senco Brand. Can, a swell and leaky. No living bacteria. Living molds present and visible in the can. Mold fragments, 26 per cent. Bacteria, 33,600,000 per cc.

Insp. No. 91266. Blackberries. Senco Brand. Can, a swell. No living bacteria or molds. Mold fragments, none. Bacteria, 9,600,000 per cc. Yeasts and spores, 6 per 1/60 cmm.

Insp. No. 91266. Blackberries. Senco Brand. Can, a swell. Living bacteria none. Molds none. Dead bacteria, 9,600,000 per cc. Yeasts and spores, 6 per 1/60 cmm.

Insp. No. 91266. Blackberries. Senco Brand. Can, a swell, leaky. Living bacteria and molds none. Mold fragments, none. Bacteria, 8,000,000. Yeasts and spores, 16 per 1/60 cmm.

Insp. No. 91266. Blackberries. Senco Brand. Can, a swell, and probably leaky. No living bacteria or molds. Mold fragments, 10 per cent. Dead bacteria present, but less than 1,000,000 per cc. Yeasts and spores, 45 per 1/60 cmm.

Insp. No. 91266. Blackberries. Senco Brand. Can, a swell. Contents appeared good. No living bacteria. Mold fragments, 14 per cent. Yeasts and spores, 37 per 1/60 cmm.

Insp. No. 91268. Blackberries. Faust Brand. Can, a swell. No living bacteria or molds. Mold fragments, 48 per cent. Bacteria, 20,000,000 per cc. Yeasts and spores, 65 per 1/60 cmm.

Insp. No. 91268. Blackberries. Faust Brand. Can, a swell. Contents with normal taste but light colored. No living bacteria or molds. Mold fragments, 75 per cent. Bacteria, 2,400,000 per cc. Yeasts and spores, 16 per 1/60 cmm.

Insp. No. 91268. Blackberries. Faust Brand. Can, a swell, apparently leaky. Living bacteria and molds none. Mold fragments, 44 per cent. Bacteria, 15,000,000. Yeasts and spores, 27 per 1/60 cmm.

Insp. No. 91268. Blackberries. Faust Brand. Can, a swell. No living bacteria or molds. Mold fragments, 40 per cent. Bacteria, 16,000,000 per cc. Yeasts and spores, 22 per 1/60 cmm.

Insp. No. 91270. Strawberries. Faust Brand. Can, a swell. No living bacteria or molds. Mold fragments, 2 per cent. Bacteria, 2,400,000. per cc. Yeasts and spores, 30 per 1/60 cmm.

Insp. No. 91270. Strawberries. Faust Brand. Can, a swell and leaky. No living bacteria or molds. Mold fragments 2 per cent. Bacteria, 1,000,000. Yeasts and spores, 21 per 1/60 cmm.

Insp. No. 91270. Strawberries. Senco Brand. Can, a swell. No living bacteria or molds. Mold fragments, 16 per cent. Bacteria, 2,400,000 per cc. Yeasts and spores, 15 per 1/60 cmm.

Insp. No. 91270. Strawberries. Faust Brand. Can, a swell. No living bacteria or molds. Mold fragments, 12 per cent. Bacteria, 7,200,000 per cc. Yeasts and spores, 109 per 1/60 cmm.

Insp. No. 91272. Cherries. Faust Brand. Can, a swell. Living bacteria and molds. Mold fragments, none. Bacteria, 12,000,000 per cc. Yeasts and spores, 17 per 1/60 cmm.

Insp. No. 91272. Cherries. Faust Brand. Can, a swell. No living bacteria or molds. Few mold fragments or dead bacteria.

Insp. No. 91273S3-0. Cherry Jam. In glass. Contents apparently in good condition. Mold fragments, 10 per cent. Bacteria, 13,400,000 per cc. Yeasts and spores, 42 per 1/60 cmm.

Insp. No. 91274S4-0. Strawberry Jam. In glass. Contents apparently good. Mold fragments, 14 per cent. Bacteria, 15,200,000 per cc. Yeasts and spores, 43 per 1/60 cmm.

Insp. No. 91363. Cherries. Faust Brand. Can, a swell. No living bacteria or spores. No mold fragments. Bacteria, 2,800,000 per cc. Yeasts and spores, 11 per 1/60 cmm.

Insp. No. 91557. Tuna fish. Blue Sea Brand. Can and contents in apparently good condition. No living bacteria or molds.

Insp. No. 91565-a. Sweet Potatoes. Annex Brand. Can, a swell. Contents apparently good. No living bacteria or molds. Mold fragments, 6 per cent. Bacteria, 2,400,000 per cc. Yeasts and spores, 16 per 1/60 cmm.

Insp. No. 91565-b. Sweet Potatoes. Annex Brand. Can, a swell. Contents apparently good. No living bacteria. Living molds. Mold fragments, 10 per cent. Bacteria, 4,800,000 per cc. Yeasts and spores 12 per 1/60 cmm.

Insp. No. 91566. Sweet Potatoes. Annex Brand. Can, a swell. Contents apparently good. Living bacteria and molds, none. Mold fragments, 20 per cent. Bacteria, 2,400,000 per cc. Yeasts and spores, 10 per 1/60 cmm.

Insp. No. 91566. Sweet Potatoes. Annex Brand. Can, a swell. Contents apparently good. No living bacteria. Living molds present. Mold fragments, 20 per cent. Bacteria, 7,200,000. Yeasts and spores, 6 per 1/60 cmm.

Insp. No. 91567. Sweet Potatoes. Annex Brand. Can, a swell. Contents apparently good. No living bacteria. Living molds present. Mold fragments, 10 per cent. Bacteria, 4,800,000 per cc. Yeasts and spores, 12 per 1/60 cmm.

Insp. No. 91567. Sweet Potatoes. Annex Brand. Can, a swell. Contents apparently good. No living bacteria. Living molds present. Mold fragments, 12 per cent. Bacteria, 4,800,000 per cc. Yeasts and spores, 20 per 1/60 cmm.

Enactment of First Hay Fever Ordinance.

Through the joint efforts of the American Hay Fever Prevention Association, the New Orleans city board of health and the department of public works, the commission council of New Orleans has passed the first ordinance ever enacted for the benefit of hay-fever sufferers.

This ordinance was made as liberal as its sanitary object would permit. It requires no previous notification, as all are supposed to know the requirements of this ordinance. Its enforcement is direct, as every violator of the ordinance is punished by fine or imprisonment, or both.

Dr. Scheppegrell, the president of the American Hay Fever Prevention Association, believes that the enforcing of this ordinance will soon be followed by marked benefit to hay-fever sufferers of which 2 per cent of the population in most sections of the

United States are victims, and that a similar ordinance should be enacted in other cities in the interest of those suffering from hay fever.

The following is a copy of the new ordinance:

AN ORDINANCE for the better protection of the public health, and particularly to prevent the spread of disease.

SECTION 1. Be it ordained by the commission council of the city of New Orleans, That:

(1) The tenant or occupant of any leased or occupied premises, lot or other area shall not permit weeds or grass over two feet in height to grow or stand on the premises, lot or area leased or occupied by him.

(2) The owner of any premises, lot or other area, not leased or occupied by another person, shall not permit weeds or grass over two feet in height to grow or stand on such premises, lot or other area owned by him.

(3) The tenant or occupant of any leased or occupied premises, lot or other area shall not permit weeds or grass over one foot in height to grow or stand on the sidewalk or banquette abutting the premises, lot or other area leased or occupied by him.

(4) The owner of any premises, lot or other area, not leased or occupied by another person, shall not permit weeds or grass over one foot in height to grow or stand on the sidewalk or banquette abutting such premises, lot, or area owned by him.

(5) A firm or corporation having franchise rights or privileges on the streets shall not permit weeds or grass over one foot in height to grow or stand on any street or area, or any part thereof, which, by the terms of its franchise, it is bound to care for or to keep in good order, condition or repair.

(6) For the purpose of enforcing the provisions of this ordinance, a corporation shall be deemed to be represented by its president, or in his absence by its vice president, or in the absence of both by the officer or individual in charge of the affairs of the corporation, and such representatives shall be held responsible and punishable for any violation by the corporation of the provisions of this ordinance.

(7) Each of the members of a firm shall be held responsible and punishable for any violation by the firm of the provisions of this ordinance.

(8) For every violation of any of the provisions of this ordinance the person responsible shall, on conviction, be punished by a fine of not less than one dollar, nor more than twenty-five dollars, and in default of payment of the fine, by imprisonment in the parish prison for not less than ten days nor more than thirty days, or both, in the discretion of the court having jurisdiction.

SECTION 2. Be it further ordained, etc. That all ordinances and parts of ordinances in conflict with the provisions of this ordinance be and the same are hereby repealed.

A true copy: JOHN P. COLEMAN, *Secretary to the Mayor.*

HOW TO BE READY.

To know how to be ready—a great thing—a precious gift—and one that implies calculation, grasp and decision. To be always ready a man must be able to cut a knot, for everything can not be untied; he must know how to disengage what is essential from the detail in which it is enwrapped, for everything can not be equally considered; in a word, he must be able to simplify his duties, his business and his life. To know how to be ready is to know how to start.

It is astonishing how all of us are cumbered up with a thousand and one hindrances and duties which are not such, but which nevertheless wind us about with their spider threads and fetter the movement of our wings. It is the lack of order which makes us slaves; the confusion of to-day discounts the freedom of to-morrow.

Confusion is the enemy of all comfort, and confusion is born of procrastination. To know how to be ready we must know how to finish. Nothing is done but what is finished. The things which we leave dragging behind us will start up again later on before us and harass our path. Let each day take thought of what concerns it, liquidate its own affairs and respect the day which is to follow, and then we shall be always ready.—*Henri-Frederic Amiel.*

BULLETIN

OF THE

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CONTENTS.

Morbidity Reports for April, 1916, page 82.

Tin and Gas in "Springers" and "Swells," page 84.

The Price He Paid, page 89.

Work is Health, page 90.

Sickness Cause of Poverty, page 91.

That Cold, page 92.

Hay-fever Weeds and How They May be Recognized, page 93.

Perhaps, page 95.

Only game fish swim up stream!

Sit down; you're rocking the boat!

The typhoid rate is on the toboggan in Kansas.

Moderation! moderation! in speech, in food, in drink!

It is not what you hear that counts, but what you remember.

You don't seem right to any unless you seem wrong to many.

**"The world stands aside to let the man pass who knows
where he is going."**

**The white duck and Palm Beach season is here; if you would
be comfortable, wear them.**

**Money appropriated for public health work is an invest-
ment, not an expense.—*Ravenel.***

**Before taking your vacation, get vaccinated against typhoid
fever; it will not only render you immune to the disease, but
give you peace of mind. Do it now!**

MORBIDITY REPORTS FOR APRIL, 1916.

Number of cases reported from each county.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pellagra.....	Mumps.....	Trachoma.....	Chicken pox.....	Pneumonia.....	Other communicable diseases.....
The State.....	70	69	208	276	3,579	108	5	1	130	9	212	144	41
Allen.....	1	0	1	0	8	3	0	0	0	0	1	3	1
Anderson.....	0	0	4	0	26	0	0	0	0	0	0	0	0
Atchison, except Atchison city.....	0	0	0	0	113	0	0	0	0	0	0	3	0
Barber.....	0	0	4	0	84	0	0	0	0	0	1	0	0
Barton.....	0	0	2	0	2	0	0	0	0	0	0	2	0
Bourbon, except Fort Scott.....	2	1	3	0	26	2	0	0	3	0	1	2	2
Brown.....	0	0	1	0	31	0	0	0	0	0	0	2	0
Butler.....	0	1	1	0	22	0	0	0	0	0	0	1	0
Chase.....	0	1	8	6	15	0	0	0	7	0	0	0	0
Chautauqua.....	0	0	0	13	33	8	0	0	4	0	14	10	2
Cherokee.....	1	0	9	0	0	0	0	0	8	0	0	0	0
Cheyenne.....	0	0	0	0	24	2	0	0	0	0	0	0	0
Clark.....	1	0	0	23	183	1	0	0	0	0	0	0	0
Clay.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Cloud.....	0	0	4	28	24	0	0	0	7	0	0	0	0
Colley.....	0	0	10	0	3	0	0	0	0	0	8	5	1
Comanche.....	1	0	0	0	5	0	0	0	1	0	0	2	0
Cowley.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Crawford, except Pittsburg.....	1	0	1	0	46	2	0	0	0	0	10	0	1
Decatur.....	0	0	0	18	78	0	0	0	0	0	0	8	0
Dickinson.....	0	1	0	2	18	0	0	0	0	0	0	0	0
Doniphan.....	0	0	0	1	17	0	0	0	0	0	1	8	0
Douglas.....	0	2	3	15	2	0	0	0	2	0	0	2	0
Edwards.....	0	1	3	0	75	0	0	0	0	0	9	3	0
Elk.....	1	0	1	0	12	0	0	0	0	0	3	0	0
Ellis.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Ellsworth.....	0	0	0	4	6	0	0	0	0	0	21	0	0
Finney.....	0	2	0	0	13	0	0	0	0	0	0	0	0
Ford.....	0	0	10	0	37	0	0	0	0	0	0	0	0
Franklin.....	0	0	16	0	39	0	0	0	0	0	0	0	0
Geary.....	0	0	3	24	24	0	0	0	0	0	4	0	0
Gove.....	5	0	0	2	31	0	0	0	0	0	0	1	0
Graham.....	0	0	0	0	1	0	0	0	0	0	0	2	0
Grant.....	0	0	0	0	16	0	0	0	0	0	0	0	0
Gray.....	0	0	7	0	0	0	1	0	2	0	0	0	0
Greeley.....	0	0	0	0	0	0	0	0	0	0	0	3	0
Greenwood.....	0	0	0	0	95	0	0	0	0	0	0	0	1
Hamilton.....	0	0	7	0	2	0	0	0	0	0	0	4	0
Harper.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Harvey.....	1	1	0	1	16	1	0	1	1	0	0	1	0
Haskell.....	0	2	4	1	137	0	0	0	0	0	0	0	0
Hodgeman.....	0	0	0	0	1	0	0	0	0	0	0	0	0
Jackson.....	0	1	1	0	85	5	0	0	1	0	0	0	0
Jefferson.....	0	0	0	0	37	0	0	0	0	0	1	0	0
Jewell.....	0	0	0	15	3	0	0	0	0	0	0	1	0
Johnson.....	0	0	0	0	29	0	0	0	0	0	1	3	0
Kearny.....	1	0	0	0	0	0	0	0	0	0	0	3	0
Kingman.....	0	0	1	0	9	0	0	0	1	0	1	0	0
Kiowa.....	0	0	0	0	18	0	0	0	0	0	0	0	0
Labette, except Parsons.....	0	0	1	4	42	0	0	0	1	0	0	2	13
Lane.....	0	1	1	2	80	0	0	0	0	0	0	0	0
Leavenworth, except Leavenworth city.....	0	0	0	2	3	0	0	0	0	0	0	1	5
Lincoln.....	0	4	1	0	21	0	0	0	0	0	0	0	0
Linn.....	3	7	1	0	7	31	1	0	0	0	1	0	0
	0	2	1	1	5	8	0	0	0	0	0	0	0

MORBIDITY REPORTS FOR APRIL, 1916—Concluded.

COUNTIES.	Typhoid fever.....	Diphtheria.....	Scarlet fever.....	Smallpox.....	Measles.....	Whooping cough.....	Meningitis.....	Pellagra.....	Mumps.....	Trachoma.....	Chicken pox.....	Pneumonia.....	Other communicable diseases.....
Logan.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon.....	0	0	4	1	1	0	0	0	0	0	0	0	0
Marion.....	0	1	2	0	22	0	0	0	0	0	0	0	0
Marshall.....	0	2	1	1	6	0	0	0	0	0	0	0	0
McPherson.....	0	1	3	0	16	0	0	0	0	0	1	5	1
Meade.....	1	0	0	0	1	0	0	0	0	0	1	2	0
Miami.....	41	1	2	0	142	0	0	0	0	0	1	0	0
Mitchell.....	0	0	4	0	6	0	0	0	0	0	0	0	0
Montgomery, except Coffeyville.....	1	1	0	11	27	2	0	0	1	0	0	5	0
Morris.....	1	1	0	2	19	0	0	0	0	0	0	5	0
Morton.....	0	0	2	0	0	0	0	0	5	0	0	3	0
Nemaha.....	0	0	0	0	3	0	0	0	0	0	0	0	0
Neosho.....	0	0	0	0	22	1	0	0	5	0	0	0	0
Ness.....	0	0	0	0	264	2	0	0	1	0	2	1	0
Norton.....	0	0	11	0	24	0	0	0	0	0	0	0	0
Osage.....	0	0	1	0	76	1	0	0	0	0	0	2	1
Osborne.....	2	0	1	55	55	1	0	0	2	0	0	1	0
Ottawa.....	0	4	1	0	8	0	0	0	1	0	0	0	0
Pawnee.....	0	0	0	0	38	0	0	0	0	0	0	1	0
Phillips.....	1	0	21	0	5	0	0	0	0	0	0	4	0
Pottawatomie.....	0	0	7	1	5	0	0	0	0	0	0	0	0
Pratt.....	0	0	1	0	17	0	0	0	0	0	0	0	0
Rawlins.....	0	0	11	0	1	0	0	0	0	0	0	0	0
Reno, except Hutchinson.....	0	0	0	0	57	0	0	0	0	0	0	3	1
Republic.....	1	0	1	1	7	0	0	0	0	0	0	0	0
Rice.....	0	0	1	1	46	2	0	0	1	0	4	0	0
Riley.....	0	0	1	1	4	0	0	0	2	0	1	0	0
Rooks.....	1	0	2	0	30	7	0	0	0	0	0	2	0
Rush.....	0	0	0	3	5	0	0	0	0	0	0	0	0
Russell*.....	0	0	3	0	0	0	0	0	0	0	0	0	1
Saline.....	0	0	0	1	0	0	0	0	0	0	1	3	0
Scott.....	0	0	10	0	36	0	0	0	0	0	0	0	0
Sedgwick, except Wichita.....	0	1	2	1	0	1	0	0	0	0	0	0	0
Seward.....	0	1	11	8	15	7	1	0	0	3	18	7	1
Shawnee, except Topeka.....	0	0	0	0	22	0	0	0	34	0	0	0	0
Sheridan.....	0	1	0	0	5	0	0	0	0	0	0	0	0
Sherman.....	0	4	9	2	179	2	0	0	0	0	0	0	0
Smith.....	0	0	1	0	230	4	0	0	4	0	0	3	0
Stafford.....	0	0	1	0	30	0	0	0	0	0	0	0	0
Stanton*.....	0	0	0	0	1	2	0	0	0	0	0	0	0
Stevens.....	0	0	0	0	11	0	0	0	3	0	0	0	0
Sumner.....	1	1	0	0	59	0	0	0	0	0	0	0	0
Thomas.....	0	0	1	0	0	2	1	0	0	0	20	10	0
Trego.....	0	0	5	0	7	0	0	0	0	0	0	0	0
Wabaunsee.....	0	0	0	0	4	0	0	0	0	0	0	0	0
Wallace.....	0	1	5	0	5	0	0	0	0	0	0	2	0
Washington.....	0	0	0	0	2	0	0	0	0	0	0	0	0
Wichita.....	0	0	0	0	9	0	0	0	0	0	0	1	0
Wilson.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Woodson.....	0	0	0	0	132	8	0	0	0	0	1	5	0
Wyandotte, except Kansas City.....	0	1	5	0	16	0	0	0	0	0	0	1	0
Kansas City.....	2	13	20	8	245	0	1	0	2	0	6	0	0

* No report. Other communicable diseases: Malaria, 4; Cancer, 24; Erysipelas, 7; Ophthalmia neonatorum 1; Tonsillitis 1; Gonorrhea, 4.

Tin and Gas in "Springers" and "Swells."

By W. S. LONG, analyst in charge.

A search of the literature available on this subject reveals very little from a bacteriological standpoint and not a great deal from a chemical point of view.

A gas-producing organism having the characteristics of *B. putrificus coli* was isolated from "swells" containing meat by Fowler in 1908. (Third report of the Committee on Physiological Effects of Food, Training and Clothing on the Soldier, 1908, 49-51.)

Tonney and Grooken attributed the presence of carbon dioxide and alcohol in canned goods to alcoholic fermentation, which occurs as a result of imperfect sterilization. The presence of nitrogen they attributed to protein decomposition, claiming that the amount of this gas is an index of the amount of such decomposition. They found hydrogen present in amounts varying from none to fifty-eight per cent. Its presence was an indication of ptomaine-producing substances. Marsh gas, which occurred in small amounts, had the same significance. Carbon monoxide, which occurred occasionally, was formed by the reduction of carbon dioxide by nascent hydrogen. Oxygen, occurring in traces only, was present as a constituent of air. They found extreme variations in the kinds and amounts of gases in the same types of foods. ("Analysis of Gases Contained in Swollen Canned Goods," Lab. Dept. Health, Chicago, American Food Journal 3, 1908.)

J. M. Coerbergh, working with canned spinach, found that the amount of tin in material put up in cans, by the same maker and at the same time, may vary greatly. The amount in unvarnished cans one year old was less than 126 mgs. per kilogram of food, while the amount in varnished cans was always much less. He found that the amount of tin bore no relation to the amount of air or of nitrates in the cans. (Pharm. Weekblad 49, 429-31, 490-5, Chem. Abs. 1912.)

R. F. Bacon, in an article entitled "Tin Salts in Canned Goods of Low Acid Content," states that many nonacid foods attack tin linings to a very marked extent. A determination of the ratio of tin to acid in a number of canned foods showed that this ratio was highest in nonacid vegetables and lowest in acid

fruits and vegetables. He found that shrimps contain a corrosive substance which attacks tin vigorously. The compound $N(CH_3)H_2$ isolated from this product dissolved tin slowly. He investigated the action of several alkaline substances, amino acids and purine bases, and found that many of these substances would dissolve tin in considerable quantities. His conclusion was that the action of nonacid foods was due to amines and amino acids. (U. S. Dept. Agri., Bur. Chem., Circular 79, 1911.)

W. Rossee and Von Morgenstern, in an article entitled "Abnormal Amounts of Tin in Canned Foods," state that canned foods always contain some tin removed from the receptacle, but usually only small amounts. Large amounts are dissolved when the can is left open for some time. Canned spinach, originally containing 18 mgs. of tin, after six days' exposure contained 1038 mgs. per kilo. Similar results were obtained with other vegetables. They state that the tin forms insoluble compounds with the vegetable substance, and is not redissolved by the gastric juice. Their conclusion is that the small amounts of tin usually found in canned foods are not to be considered injurious. (Z. offentl. Chem. 20, 171-2, 1914.)

H. A. Baker, in his article, "The Disappearance of Oxygen in Canned Food Containers," states that the gases in the head space of "springers" are never more than three—carbon dioxide, nitrogen and hydrogen. He defines the term "springer" as "a trade name given to cans with bulging ends, which contain perfectly sound and sterile food products." The source of these gases he states as follows:

Carbon dioxide is produced during the time of processing, and may be produced in excessive amounts if the time from the beginning of the preparation of the material to the period of sterilization is not short.

Nitrogen is present as a residue from unremoved air.

Hydrogen is present as a result of the action of fruit and vegetable acids on metallic containers.

The disappearance of the oxygen originally present as a constituent of the air left in the head space of the container he attributes to at least three causes, as follows:

(a) It may combine with the metals tin and iron, forming oxides.

(b) It may be used up in the oxidation of salts of these metals.

(c) It may combine with nascent hydrogen.

(d) It may combine with fatty materials during processing. (Original Communication, Congress of Applied Chemistry, vol. 18, 1912.)

A. W. Bitting, in "Methods Followed in the Commercial Canning of Foods," states: "It is always possible to tell a 'swell' from a 'springer' by the use of a microscope, as in the former there will be large numbers of organisms, while in the latter there will be very few." (U. S. Dept. Agri., Bul. 196, 1915.) It will be inferred from this statement that cans which are "bulged" only as a result of the presence of hydrogen formed by the action of acids on tin are to be considered as "springers."

The tables following include data obtained in the analysis of eighty-three samples of bulged canned goods. The work was started primarily for the purpose of obtaining information on this class of material.

The term "excess gas," as used in the tables, is to be interpreted as meaning the amount of gas given off by the can during the equalization of pressure.

The volume of gas remaining in the can was obtained from measurements of the total volume of the can and the volume of the food contents.

The tin determinations were made by the iodine titration method, as outlined by H. A. Baker in his article, "Special Adaptation of Iodine Titration Methods for the Estimation of Tin, Especially in Connection with Determinations of 'Salts of Tin' in Canned Foods," published in "Original Communications, Congress of Applied Chemistry."

An examination of the table will show that:

1. In the majority of cases the gases present were hydrogen, carbon dioxide, and nitrogen (the inactive residual gas being considered as nitrogen). The presence of these three gases alone, coupled with the fact that the condition of the food in ninety per cent of the samples was good, judged by the taste, smell and appearance, suggests that the samples examined were "springers."

2. No definite relation exists between the amounts of tin and hydrogen.

3. The hydrogen in nearly all cases is a small fraction of

the amount which the tin present is capable of liberating by interaction with acids.

These facts suggest that considerable tin is corroded by agents other than acids.

4. The amounts of carbon dioxide present in the majority of samples are relatively large. Whether these amounts are formed during processing, or subsequently as a result of fermentation, has not been determined.

5. There is a wide variation in the amounts of tin and gases in the various kinds, and also in the same kind of foods.

NOTE.—Food inspection decision No. 126 defines the maximum amount of tin permissible in canned foods as 300 milligrams per kilo of food.

Contents, grams.	Excess gas, cc.	Total gas, cc.	Tin per kilo, mgs.	Gases per kilogram of fruit.		
				Total, cc.	Hydrogen, cc.	Carbon dioxide, cc.
CORN.						
603	100+	170+	79	281	11	185
617	83	163	45	264	169	144
595	41	116	265	194	91	61
585	25	115	84	196	6	27
PUMPKIN.						
957	87	167	.822	176	6	161
SWEET POTATOES.						
588	22	.....	158	.....	Present.	Present.
546	74	.....	292	.....	Present.	Present.
GREENS.						
762	.....	.....	213	.....	Present.	Present.
778	100+	100+	339	.....	Present.	Present.
TOMATOES.						
588	7	42	117	71	.....	19
848	52	77	98	91	58	16
PEACHES.						
.....	70	329	324	.....	.....	Present.
840	29	129	163	154	97	8
840	45	185	91	158	83	5
840	65	225	109	267	180	8
812	63	173	245	218	122	6
883	5	150	113	.....	.....	.....
843	1	.....	163	.....	.....	.....
826	21	96	185	116	18	.....
MOLASSES.						
1,112	100+	.....	53	.....	.....	Present.

Contents, grams.	Excess gas, cc.	Total gas, cc.	Tin per kilo, mgs.	Gases per kilogram of fruit.		
				Total, cc.	Hydrogen, cc.	Carbon dioxide, cc.
APPLES.						
729			538			
HOMINY.						
964 1,000	100+	100+	38 58		Present.	Present.
BEETS.						
957	100+	100+	186		Present.	Present.
KRAUT.						
953	45	90	56	94	8	27
ASPARAGUS.						
987			320			
BLACKBERRIES.						
	85		386		Present.	Present.
528	27	82	880	155	97	16
538	45	100	520	170	91	13
567	86	116	490	204	54	42
588	97	172	918	293	236	52
542	41	111	170	214	134	52
581	37	102	485	176	96	30
557	54	144	548	259	163	63
546	41	136	626	249	156	88
578	23	83	490	144	64	18
	33		427		Present.	Present.
588	77	152	779	266	185	83
598	28	118	508	192	124	18
581	44	99	371	167	109	13
592	100+	100+	927		Present.	Present.
581	30	90	684	155	102	21
588	24	79	455	184	58	20
539	36	141	722	262	174	31
581	59	119	605	205	135	16
576			332			
	48		251		Present.	Present.
578	29	64	421	111	53	18
576	37	77	454	183	68	22
	55		508		Present.	Present.
588	52	107	480	182	118	20
576	28	88	406	152	87	20
560			226			
576			347			
			96			
570	28	58	55	109	81	9
546	75	120	31	219	206	12
581	47	82	107	141	25	9
613	62	100	194	163	124	8
585	54	99	335	169	142	9
578			475			
563	40	110	633	195	99	30
576			294	*		
574	4	69	311	*		

*Not a swell.

Contents, grams.	Excess gas, cc.	Total gas, cc.	Tin per kilo, mgs.	Gases per kilogram of fruit.		
				Total, cc.	Hydrogen, cc.	Carbon dioxide, cc.
RASPBERRIES.						
617	41	86	219	140	92	19
549	43	133	84	242	160	24
617	58	98	59	151	130	11
617	43	83	127	135	108	12
599	106	161	428	269	191	16
549			274		Present.	Present.
599	41	76	360	127	75	9
606	25	50	394	83	57	6
539	17	105	153	195	157	17
STRAWBERRIES.						
574	59	104	133	181	19	27
602	36	76	147	124	53	22
CHERRIES.						
921	43	93	461	101	62	8
602	3	33	146			
533	23	73	173	132		7
613	Caky.		117			
492	Caky.		110			
620	16	36	221	57	39	3
634	3	23	105			

The Price He Paid.

I said I would have my fling,
And do what a young man may;
And I did n't believe a thing
That the parsons have to say.
I did n't believe in a God
That gives us blood like fire,
Then flings us into hell because
We answer the call of desire.

And I said: "Religion is rot,
And the laws of the world are nil;
And the bad man is he who is caught
And can not foot his bill.
And there is no place called hell;
And heaven is only a truth,
When a man has his way with a maid,
In the fresh, keen hour of youth.

"And money can buy us grace,
If it rings on the plate of the church;
And money can neatly erase
Each sign of a sinful smirch."
For I saw men everywhere,
Hotfooting the road of vice;
And women and preachers smiled on them
As long as they paid the price.

So I had the joy of my life;
I went the pace of the town;
And then I took me a wife,
And started to settle down.
I had gold enough and to spare
For all of the simple joys
That belong with a house and a home
And a brood of girls and boys.

I married a girl with health
And virtue and spotless fame.
I gave in exchange my wealth
And a proud old family name.
And I gave her the love of a heart
Grown sated and sick of sin!
My deal with the devil was all cleaned up,
And the last bill handed in.

She was going to bring me a child,
And when in labor she cried,
With love and fear I was wild—
But now I wish she had died.
For the son she bore me was blind
And crippled and weak and sore!
And his mother was left a wreck,
It was so she settled my score.

*I said I must have my fling,
And they knew the path I would go;
Yet no one told me a thing
Of what I needed to know.
Folks talk too much of a soul
From heavenly joys debarred—
And not enough of the babes unborn,
By the sins of their fathers scarred.*

—Ella Wheeler Wilcox.

Work is Health.

Work is not the curse nor the affliction that some people think it is. When taken in proper doses it is the best of medicine. It is now being prescribed for many forms of invalidism, such as heart disease, Bright's disease, nervousness, and particularly for insanity. The lack of work is often the cause of many chronic maladies, and it is a wise physician who can determine when one needs work instead of rest, and in prescribing the remedy produce no unpleasant situations. About the most unhealthful person, as well as the most unhappy and useless, is the person with nothing to do.

Work is a dispeller of fears. It is the exercise that is as essential to the body and mind as are food and air. It is only when work is carried to excess that it becomes injurious, as in the case with food, rest, and all good things.

The ideal of a healthy, happy life, is no longer a world where work is not necessary and life is one grand sweet song of idleness. Life is activity; in the broad sense, it is work—work that produces and entails sacrifice. It is not less work that we need, but work in the right proportions and under the right conditions. Such work is health.—*North Carolina Bulletin.*

Sickness Cause of Poverty.

INVESTIGATION SHOWS THAT THIRTY-FIVE PER CENT OF DEPENDENCY IS CAUSED BY ILLNESS.

That sickness is the first step leading to dependency and the primary cause of poverty is shown by an investigation recently conducted by the Russell Sage Foundation in New York city. This investigation was made among wage-earners and charity organizations with a view to knowing how frequently is sickness encountered as a factor in dependency. It was found that over 35 per cent of those in need of aid had been brought to this position through sickness or the responsibility for sickness. Another important fact revealed was that most of the cases studied belonged to the lower branches of labor, and that they were here for the reason that either physical or mental deterioration had followed past illnesses. In other words, sickness was found to be a factor producing a low grade of labor as well as dependency.

Of the 687 cases of sickness studied, two-thirds were found at the time of the investigation to have been sick more than half a year, and the physician estimated that 295 cases were chronic, while 81 were likely to become progressively worse.

That the prevention of sickness is the most effective blow against poverty and dependency was the recommendation made by the committee making the investigation. Some of the needs to this end were pointed out as more prompt medical attention, education in hygiene and sanitation, opportunity for periodical medical examinations to prevent sickness, and better health conditions both in homes and places of employment. A state commission to make a thorough study of the facts as a basis for a well-organized program of action was also recommended.—*N. C. Press Service.*

That Cold.

Willie, Willie! Come right into the house. Don't you know you've got a bad cold? Bring the children in here where it's warm.

Oh, Mrs. Jones, so glad to see you! The house looks dreadful, but do come in. All the children in the neighborhood are playing here to-day. Willie has a bad cold and I wouldn't let him stay out. He's sneezing all the time! I'll be glad when Monday comes and he can go back to school! Willie, shake hands with Mrs. Jones.

Willie, did you lose your handkerchief again? Go let Auntie wipe your nose with hers.

Willie, there's the door bell again. It's Mrs. Smith and her baby. You let them in and talk to them till I get dressed. Kiss the baby nicely.

Now, Willie, be a good boy, my dear. Let Bob have a bite of your apple if he wants it.

All right, stop teasing, Willie, I'll let you go to the movies this afternoon if you won't make any fuss about getting clean for Sunday school to-morrow. But bundle up warm before you start. Remember you have a bad cold.

Hello! Hello! Yes, I can hear, Daddy. You want to bring Mr. Black home to dinner. Yes, indeed. Come early so he can have a romp with Willie. I can manage. But don't forget that medicine for Willie's cold. His nose is running awfully to-night. Good-bye.

Don't play in that cold water, Willie, when you have such a cold. Now, go wipe your hands on the kitchen towel.

Willie, let Howard Green blow that whistle just once if he wants to. You've played with it all afternoon.

Willie, don't put those cards in your mouth. You'll get them dirty. Those are for Auntie's card club to-night. You must n't spoil them.

* * *

Yes, Mrs. Green, Willie's gone back to school again. His ears are still aching some, but the doctor thinks that the drums won't burst. Pretty bad, though. Every one of us has been sick, but Willie was the worst. How's Harold's cold? Did you hear about poor Mrs. Smith? Her children all have dreadful colds, and the baby almost died of pneumonia. She was here the first day Willie

was sick, with the baby, and not a thing on its head! My house was nice and warm, and I told her when she went out to cover up that baby's head, but you can't teach some people. Willie just loves the baby. It was too cute the way he hugged and kissed her that day.

All of Willie's friends have been having colds. Bobby Black is awfully sick, Willie says. They're going to take out his tonsils as soon as he's better. Such a damp place they live in! Willie says all the children at school are sneezing. It's a drafty old building. Daddy says it's just as bad at his office. He had the first one, and since then all the other men have been sick. Daddy says it's cut down the efficiency of the office by half. Funny, too, in such a nice steam-heated building.

Did you hear what that woman who's just moved in next door said? I've been so mad ever since, I can scarcely look at her house. She had the impudence to say the reason her Precious Boy had a cold was that he came over and caught it from Willie. I'll see that they don't play together again, I can tell you. I know well enough where he got his cold. Didn't I hear her say that she made him take a bath every day? In this cold weather, too! Next she'll be saying Mrs. Smith's baby caught her pneumonia from Willie.—*California Bulletin*.

Hay-fever Weeds and How They May be Recognized.

With the approach of early summer the hay-fever sufferer looks forward with dismay to the beginning of his trials. The efforts which have been inaugurated in many of the states to eradicate or control the hay-fever weeds give promise of the eventual eradication of hay fever, but these measures should be commenced at once in order to be effective.

Fortunately the weeds that are the most noxious to the hay-fever sufferer are already on the black list of the farmer, and have no redeeming features in color, scent or utility. Their chief characteristics are as follows:

1. They are wind-pollinated.
2. Very numerous.
3. The flowers are inconspicuous, without bright color or pleasant scent.
4. The pollen is found in great quantities.

All hay-fever weeds are wind-pollinated, otherwise their pollen would not be in the air to irritate the nostrils of susceptible persons. Bright colors and sweet scent are intended to attract insects for fertilization, and are therefore absent in hay-fever weeds which are wind-pollinated.

Among the hay-fever weeds which will soon be in flower and distribute their noxious pollen are the yellow dock (*Rumex crispus*), careless weed (*Amaranthus spinosus*), cockle bur (*Xanthium strumarium*), etc. The grasses also are noxious to a certain class of hay-fever sufferers and should not be allowed to bloom unless intended for seed.

Doctor Scheppegegrell, president of the American Hay-Fever Prevention Association, calls attention to the daisy fleabane (*Erigeron*), which is beginning to bloom and whose toxicity has recently been established by this association. Children collect these flowers and in one whiff will inhale sufficient pollen to cause a paroxysm of hay fever lasting three to five days. Such attacks are almost invariably attributed to "colds," the real cause not being suspected. It may, in addition, cause a "sensitization" which will make the child susceptible to hay fever in later years.

From an agricultural standpoint, weeds already cost the farmer millions of dollars annually. When we add to this the economic loss due to hay fever caused by these weeds, several millions may easily be added. The representatives of our agricultural and legislative interests should therefore unite with the health authorities to eradicate the hay-fever weeds, which are alike a nuisance to agriculture and a reproach to preventive medicine.

PERHAPS.

When cows fall ill the government proceeds to take alarm
And sends a veterinarian to sanitize the farm.
The cow herself is put to bed and plied with drugs and pills,
And Uncle Sam comes forward, when she's cured, to pay the bills.
But when a baby falls in need of medicine and care,
The government contends that that is none of its affair.
When pigs and lambs are threatened by a deadly pestilence
Their tender lives are guarded at the government's expense.
They're coddled, nursed and dieted until they're well and fat,
And never reckon of the cost—for Uncle Sam pays that.
But when an epidemic marks the babies for its own,
The government, untroubled, lets them fight it out alone.
Some day, perhaps, when all the pork has lavishly been passed,
When every scrap of patronage is handed out at last,
When all noble congressmen have got all they desire
And have attained whatever heights to which they may aspire,
To unknown heights of common sense the government will leap
And do as much for mothers as it does for cows and sheep.

—*Chicago Examiner.*

MY WORK.

By **HENRY VAN DYKE.**

Let me but do my work from day to day,
In field or forest, at the desk or loom,
In roaring market-place or tranquil room;
Let me but find it in my heart to say,
When vagrant wishes beckon me astray:
"This is my work; my blessing, not my doom.
Of all who live, I am the one by whom
This work can best be done in the right way."
Then shall I find it not too great nor small,
To suit my spirit and to prove my powers;
Then shall I cheerful greet the laboring hours,
And cheerful turn, when the long shadows fall,
At eventide to play and love and rest,
Because I know for me my work is best.

BULLETIN
OF THE
Kansas State Board of Health

PUBLISHED MONTHLY AT THE OFFICE OF THE SECRETARY OF THE BOARD, TOPEKA.

Entered as second-class matter, March 5, 1906, at the post office at Topeka, Kan.,
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S. J. CRUMBINE, M. D., SECRETARY AND EDITOR.

MAY, 1916.

VOL. XII.

SPECIAL NUMBER.

SECOND BIENNIAL REPORT
OF THE
Central Division of Vital Statistics,
Kansas State Board of Health,
1914-1915,
AND
Division of Communicable Diseases.

KANSAS STATE PRINTING PLANT.

W. R. SMITH, State Printer.

TOPEKA, 1916.

6-3159

The Kansas State Board of Health.

S. J. CRUMBINE, M. D.,
Secretary and Executive Officer.

Central Division of Vital Statistics,

WILLIAM J. V. DEACON,
State Registrar.

STEWART G. THOMPSON,
Assistant State Registrar.

Division of Communicable Disease,

JOHN J. SIPPY, M. D.,
Epidemiologist.

“Vital statistics are the bookkeeping of sanitary science.”

TOPEKA, KAN., May 19, 1916.

The State Board of Health,

Dr. S. J. Crumbine, Executive Officer, Topeka, Kan.:

GENTLEMEN—I have the honor to transmit herewith the second biennial report of the Central Division of Vital Statistics, for the calendar years 1914 and 1915. This report includes births, deaths and marriages; and such tables and comments are submitted as appear of value in the studies of disease and the determination of sociological and economic conditions, and which may be used to make Kansas a better state in which to live.

This report was prepared with the assistance of Mr. Stewart G. Thompson, assistant state registrar, and the staff of the division.

Respectfully,

WILLIAM J. V. DEACON, *State Registrar.*

PART I.

REPORT OF VITAL STATISTICS.

1914-1915.

WITH the conclusion of the year 1915 Kansas had records of births and deaths for four complete years, 1912 to 1915, inclusive, in addition to the last four months of 1911. In all there have been received, studied, classified, compiled, indexed and filed, in that period of four years and four months, 76,772 death and 157,663 birth certificates, which means that there are available to the citizens of Kansas and elsewhere authentic records of death in 76,772 cases, which may be of utmost value in proving many legal questions, particularly of inheritance, descent, pensions and insurance, besides the knowledge already made useful in matters of sanitation and in saving and prolonging the lives of the living and reducing the suffering and anxiety caused by sickness.

The report of the Division of Epidemiology will show reduction in the incidence of some of the preventable diseases to an extent that is almost remarkable, and it may be truthfully said that if these reports of deaths had not been available the plague spots in many cases would not have been uncovered and no such progress in combating disease would have been possible.

The following table will show the number of deaths and death rates for the four years:

Year.	Population.	Total deaths.	Death rate per 1000 population.
1912.....	1,690,949	17,183	10.2
1913.....	1,695,621	17,861	10.6
1914.....	1,672,106	17,497	10.5
1915.....	1,672,545	17,961	10.7

The populations used are the state enumeration for each year without correction, except for 1912, when the federal census of 1910 was used. This makes the average rate for the four years 10.5 per 1000 population.

Table A, in the appendix to this report, will show the populations, deaths and death rates by counties for 1914 and 1915.

The proper recording of the births of the children is so important and so generally understood by the people that it seems unnecessary to present any argument at this time in regard to this function of the state government. To safeguard the rights of its citizens is the basis of all government, and by no means the least of these functions is to establish the birthright of its children. The right of the child to the education which the laws require, and for which the taxpayers of Kansas spend about fifteen million dollars annually, can only be assured by a proper and authentic record of birth; first, as a protection against those parents who wish to use the schools as a nursery by sending their children at an immature age and before the mind is sufficiently well developed to be taught, and the parents be thereby relieved of the care of the child; second, as a

protection to the child whose parents may wish to commercialize by placing him at work before the conclusion of that period which the laws require shall be given over to education.

At the conclusion of another biennium it will be possible to require birth certificates before entrance into school, as the records will have covered a period of six years—the required age for school admission.

The securing of birth reports is the most difficult problem before the department, and the registration is by no means complete. Until physicians and midwives can be impressed with the duty which they owe to their patients and to the state, and parents made to realize the tremendous importance of proper registration, and demand it, the results will always be more or less unsatisfactory.

The following table will show the number of births and birth rates for the four years:

Year.	Population.	Total births.	Birth rate per 1000 population.
1912.....	1,690,949	38,005	22.5
1913.....	1,685,621	35,382	21.0
1914.....	1,672,106	35,521	21.2
1915.....	1,672,545	37,199	22.2

Table B, in the appendix to this report, will show the populations, births and birth rates by counties for 1914 and 1915. It will be seen that the past year has shown a satisfactory increase over the preceding year, and this is due in a large measure to the extraordinary effort put forth to educate the people, the active prosecution of negligent physicians, and better organization and education of the local registrars.

On October 15, 1915, Miss Laura Neiswanger, R. N., a trained nurse of wide experience in social work, was engaged as field agent of the division, and has been rendering very efficient service since that time. Her work is largely of an educational nature, and it is yet too early to expect positive results; the increased number of birth reports for the past few months, however, indicate that her service will be of value to the department's work.

EFFICIENCY OF REGISTRATION.

The standard of efficient registration of deaths is fixed by the United States Bureau of the Census, and includes, in what is known as the registration area of the United States, those states that have efficient laws so administered that not less than 90 per cent of all deaths are reported.

The cities of Leavenworth, Kansas City and Wichita were included in the registration area under local ordinances for some years prior to the enactment of the state law in 1911. Beginning with 1912, the twelve cities showing a population of 10,000 or more in the federal census of 1910 were included. These were: Atchison, Fort Scott, Pittsburg, Lawrence, Parsons, Leavenworth, Coffeyville, Independence, Hutchinson, Wichita, Topeka, and Kansas City; and complete reports of these cities will be found in the mortality statistics for 1912 and 1913, issued by the Bureau of the Census.

The amendment of the vital statistics law by the legislature of 1913 gave Kansas a sufficient number of registrars as required by the Bureau of the Census, and shortly after the beginning of the year the state registrar filed formal application for the admission of the state as a whole. No satisfactory reply being received, considerable correspondence was conducted, but no conclusion being reached, the state registrar went to Washington in October of 1914 and laid the matter in person before the Director of the Census. After several days of conference it was finally agreed to admit the state for 1914, and as soon as possible thereafter a special agent of the bureau would visit the state, and if it was found that less than 90 per cent of the deaths were being reported no protest would be raised if the state were dropped for 1915.

The following letter was received from the Director under date of December 24, 1914:

DEPARTMENT OF COMMERCE, BUREAU OF CENSUS,
WASHINGTON, December 24, 1914.

DEAR SIR—I am in receipt of your letter of October 24 requesting that Kansas be admitted to the registration area of the United States for deaths for the calendar year 1914.

While I understand that the registration of deaths is not entirely complete and apparently defective in a few counties, I believe that with the assurance above mentioned I shall be justified in admitting Kansas to the registration area for deaths for the calendar year 1914.

Very truly yours, WILLIAM J. HARRIS, *Director*.

During an interview with Mr. R. C. Lappin, chief statistician for vital statistics, Bureau of the Census, in September, 1915, he made the statement that we could not be getting all of our deaths, as our rate was too low. On November 9, 1915, Mr. C. C. Jermane, a special agent of the Census Bureau, reached our office, without previous notification of his coming, and proceeded to check the registration for the months of July, August and September. His method of checking was to secure lists of deaths from rural carriers and postmasters and check the lists against the original death certificates in this office.

Upon the completion of his work, on December 10, and the filing of his report in Washington, the following letter was received from the director:

DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS,
WASHINGTON, December 21, 1915.

MY DEAR MR. DEACON—In accordance with the decision made at the time when Kansas was admitted to the registration area for deaths, that a test of the accuracy of the registration of deaths be made, I submit the following tabular statement showing the results of the recent investigation conducted by Mr. Clifton C. Jermane, special agent for the Bureau of the Census:

REQUESTS FOR NAMES OF DECEDENTS AND DATE OF DEATH.

To—	First letters.	Second letters.	Third letters.	Letters not answered.	Per cent of letters not answered.
Postmasters.....	1,060	482	83	49	4.6
Rural carriers.....	1,823	786	107	35	1.9

In addition, forty-three letters were sent to postmasters requesting them to call the rural carriers' attention to their failure to answer the letters sent to them.

JULY, AUGUST, AND SEPTEMBER, 1915.

Number of deaths (exclusive of still- births) reported to local registrars.	Number of deaths that occurred but not registered.	Number of deaths still being investigated.	Per cent of deaths not registered.	Annual death rate based on registered deaths.
3,926	16	8	0.4	8.7

The above statements are based on a test confined to rural carriers and cities and towns having a population of less than 1500 in 1910. The number of deaths registered in your office during the months of July, August and September, 1915, corresponds to a death rate of 8.7 per 1000 population. This very low rate is based on population estimated by this bureau. Possibly when your state assessor's census is available it may be found that our estimated population is too high, in which case the death rate would be increased.

It is gratifying to me that the result of this investigation justifies the admission of the state of Kansas to the registration area for deaths.

I still think that the extremely low death rate shown for the month of July, August and September, 1915, should be explained in some way. I realize that the annual rate for these months may not be an index to the rate when the number of deaths for the entire year are considered. I would, therefore, be pleased to have you give me your opinion of the existing conditions which would warrant such a low rate.

Very truly yours,

SAM L. ROGERS, *Director*.

MR. W. J. V. DEACON,

State Registrar of Vital Statistics, Topeka, Kan.

It will be noted that in the foregoing inquiry was made as to the cause of our low death rate, and in reply thereto the state registrar directed the following letter:

TOPEKA, KAN., January 7, 1916.

Hon. Sam L. Rogers, Director, Bureau of the Census, Washington, D. C.:

DEAR SIR—I have your interesting letter of December 21, and am very glad to know that the test undertaken by your bureau substantiated the statements made by the state registrar a year ago in claiming that Kansas registration was within the efficiency requirements of the Bureau of the Census and therefore the state was entitled to representation in the registration area for deaths.

You ask an explanation of our low death rate. There is no one reason for it, but there must be a careful consideration of several important elements which have a direct bearing on the case.

Kansas is almost wholly an agricultural state. There are but twelve cities in the state (1910 census) of more than ten thousand population. There is a gratifying absence of slum districts in any of these cities. Our largest city (Kansas City) has but one important industry—packing-houses—which is not an unhealthful business as conducted in these establishments. Aside from the southeast corner of the state there is no mining.

The density of the population in the state is but 20.7 persons to the square mile, and 70.8 per cent of the population resides outside of towns of 2500 population or more. This rural life has much to do with the low death rate. The climate, while showing extremes of temperature, is usually mild enough to permit much outdoor work and open windows.

But it is to the people themselves that we must look for those minor and subtle qualities that make for better and longer living. Kansas is a rich state; her per capita wealth is great and the people are enabled to live well, to properly clothe themselves, to have comfortable homes, and to load their tables with nourishing foods. All of these make for strong physical resistance to disease and that psychological poise that directly affects bodily health.

Kansas is a prohibition state, and has been for a generation, and in Kansas prohibition really prohibits. I do not mean by this that there is no alcohol consumed in the state, but the absence of the saloon means much to our growing young men and boys, who in the absence of the bar-room find more healthful pastimes than loafing in an alcohol-laden atmosphere, and there is an absence of opportunity to poison the body with the toxins of alcohol, which will be sure to show in those organic diseases which are known to be affected by alcohol.

Another and more important effect of prohibition is that the wage of the laborer or mechanic is not dissipated, but goes to supply those necessities of food, clothing and housing most essential to the well-being of their families and themselves.

The intelligence of the people has, in my opinion, a direct influence upon their health. I have demonstrated, to my own satisfaction at least, that there is a direct correlation between a low rate of illiteracy and a low death rate. Kansas has an illiteracy rate of 2.2; the people are intelligent, and for many years the Kansas State Board of Health and allied agencies have carried on a propaganda of public-health education which is bearing fruit in the saving of human lives.

Kansas' low death rate is not a surprise to any one who has studied Kansas conditions from an economic and sociological standpoint. While the foregoing facts are more or less abstract, they are none the less true. A comparison of the death rates from a few important causes of death furnish a more concrete illustration of the elements which are, in a large measure, responsible for the low death rate in Kansas. The following table shows a comparison of the death rate per one hundred thousand population, in certain diseases, between the registration area of the United States, as shown by the mortality statistics for 1913—the latest publication—and Kansas for the same period:

CAUSE OF DEATH.	Rate per 100,000 population.	
	United States registration area mortality statistics, 1913.	Kansas report of state registrar, 1913.
Typhoid fever.....	17.9	19.4
Diphtheria.....	18.8	7.8
Tuberculosis (all forms).....	147.6	61.8
Cancer (all forms).....	78.9	55.9
Diabetes.....	15.3	12.9
Organic heart disease.....	138.6	81.0
Pneumonia (all forms).....	132.4	85.5
Diarrhoea and enteritis (under 2 years).....	75.2	52.8
Nephritis (Bright's disease).....	102.9	64.5
Violence (except suicide).....	92.5	63.6

It will be observed that in all cases the Kansas rate is much below that of the registration area with the single exception of typhoid fever, which is slightly higher.

While I much fear that my powers of analysis and presentation are too feeble to do justice to this subject, I trust that the foregoing may be of some value in understanding that the low death rate for Kansas was expected and is fully justified by the conditions.

Respectfully, W. J. V. DEACON, *State Registrar*.

The showing of 99.6 per cent was satisfactory to the Bureau of the Census, and, in a measure, to this department. The department fully appreciated the fact that such a showing would not have been possible without the active coöperation of local registrars in the enforcement of the law. And as much interest was displayed by the local registrars in the outcome of the test, the following circular letter was addressed to them after the matter was concluded:

TOPEKA, KAN., January 27, 1916.

To Local Registrars:

You will recall that in the circular letter sent from this office last fall it was stated that the department was soon to be checked by a representative of the United States Bureau of the Census as to the efficiency of death registration.

This check has been made, a special agent spending four weeks in this office. His method of checking was to secure lists of deaths from postmasters and rural carriers and to check these lists against the certificates on file in this office. The result of this test may be best stated by quoting from a letter received from the director of the census, which reads as follows:

"Number of deaths (exclusive of stillbirths) reported to local registrars, 3926; number of deaths that occurred but not registered, 16; number of deaths still being investigated, 8; per cent of deaths not registered, 0.4.

"It is gratifying to me that the result of this investigation justifies the admission of the state of Kansas to the registration area for deaths."

The result of this check, showing, as it does, an efficiency of 99.6 per cent, was only possible because of the coöperation of the local registrars, and I desire to take this opportunity to express, on behalf of the department and myself personally, cordial appreciation of the intelligent and conscientious work of the local registrars which has made such a result possible.

With the setting of this high pace in the matter of death registration comes the call to greater efforts to improve the registration of births. At no time since the law first became effective have we felt that we were enjoying even reasonable success in this department of our work. We are formulating some new plans which we hope will be effective, and which will be presented to you in detail later.

Considerable confusion has arisen from time to time from the fact that burial permits issued for bodies shipped in for interment were not so marked. These should in every case be marked across the face "Shipped in for interment," and the actual place of death shown.

Very cordially yours,

WILLIAM J. V. DEACON, *State Registrar*.

The most serious problem which confronts the statistical division at intercensal periods is the question of population. A recent publication from the Bureau of the Census for the year 1914 gives Kansas a population of 1,784,897. The number of deaths is 17,497, making a crude death rate of 9.8 per thousand of population, whereas the population as

shown by the state enumeration for 1914 was 1,672,106, which applied to the same number of deaths makes a rate of 10.5.

It will be observed that the population used by the Bureau of the Census is 112,791 greater than the population shown by the state enumeration. The estimate of the Bureau of the Census is based on what is known as the arithmetical increase, and assumes that the rate of growth as shown for the preceding decade has been constant since the last censal period.

This is evidently not true in Kansas, but the department fully appreciates the difficulties under which the Bureau of the Census is compelled to work. They must have some definite rule upon which to base their calculations, and, while this method is not satisfactory as applied to this state, it is probably as satisfactory as any system could be, taking the country as a whole. It is, of course, unfortunate that such a low death rate is shown when it is not correct. It is probably quite true that a rate much below fourteen per thousand, as applied to a general population, must be due to some unusual condition.

Kansas, with its prosperity and many favorable conditions, has been the mecca of young people from all over the eastern, central and southern states for a generation, and, as a result, the distribution of population in Kansas is far more favorable for a low death rate than it is in some other localities. However, it is also probable that the time will come in the history of the state when this constant influx of young life will be discontinued, and when, in turn, our native young people will move to other localities, seeking more favorable investment. Then the low death rate with which we are now blessed will be compensated for by a much higher rate.

The decennial census of Kansas is taken each ten years ending in 5, and comes at the midcensal period of the federal census. It will be observed by comparing the population of the 1915 census with the 1914 enumeration that the difference is so slight that it must indicate that the enumeration was quite accurate. The population for each county will be found in the tables in the appendix to Part I of this report.

It will be observed that the cities which showed a population of 10,000 or more according to the federal census of 1910 are segregated from their counties. This is in accordance with the practice of the Bureau of the Census and has been the practice in this office for some time.

EXPLANATION OF TABLES.

The Death Rate.

Table No. 1 of the appendix to Part I shows a comparison of the death rate for each county for the four years, 1912 to 1915, inclusive. The death rate, as shown above, for the year 1914 was 10.5.

The list which follows shows the counties and their rates where the death rate for the year exceeded the rate for the state:

Chase	10.9	Montgomery	11.0
Cherokee	14.0	Neosho	11.0
Cowley	12.9	Pawnee	11.6
Ford	13.5	Rawlins	11.4
Franklin	11.6	Sumner	10.9
Harvey	12.6	Wilson	11.0
Haskell	12.3	Wyandotte	13.0
Miami	16.1		

The following cities exceeded the rate for the state:

Atchison	11.9	Coffeyville	12.5
Fort Scott	15.1	Independence	15.9
Pittsburg	14.2	Hutchinson	11.5
Lawrence	14.2	Wichita	11.1
Parsons	14.8	Topeka	16.5
Leavenworth	15.0	Kansas City	14.1

The rate for 1915 was 10.7, and the list which follows shows the counties and their rates where the death rate exceeded the rate for the state:

Allen	11.1	Harvey	11.7
Anderson	11.5	Haskell	12.1
Barton	10.8	Jefferson	11.7
Chase	11.7	Labette	11.5
Chautauqua	11.0	Leavenworth	11.2
Cherokee	12.6	Linn	11.1
Cowley	11.4	Miami	18.1
Finney	11.8	Ness	11.2
Ford	10.9	Pawnee	10.8
Franklin	12.5	Saline	11.8
Grant	11.1	Shawnee	17.1
Hamilton	11.6	Wyandotte	13.4

The following cities exceeded the rate for the state:

Atchison	12.8	Leavenworth	12.6
Fort Scott	14.8	Independence	13.4
Pittsburg	13.0	Wichita	14.5
Lawrence	15.6	Topeka	14.4
Parsons	16.1	Kansas City	14.7

The following maps (figures 1 and 2) will show the death rate for each county graphically for these two years. As shown in the foregoing report, the registration of deaths has been quite satisfactory, but the occasional willful violations of the law coming to the knowledge of the department have been promptly prosecuted.

KANSAS

1 mile

Above 12 per 1000.

10 to 12 per 1000.

8 to 10 per 1000.

6 to 8 per 1000.

Less than 6 per 1000.

FIG. 1. Death rates by counties, 1914.

KANSAS



FIG 3. Death rates by counties, 1915.

For the purpose of making a thorough survey into the operation of the law, the department undertook last fall a survey of Linn county, and below is given the report of this survey as submitted to Dr. S. J. Crumbine, executive officer of the department.

REPORT OF A VITAL STATISTICS SURVEY OF LINN COUNTY, KANSAS.

For the purpose of checking the efficiency of registration within the state it was considered advisable to attempt a survey of Linn county, Kansas, which is what might be termed a typical agricultural county.

Linn county is situated on the eastern border of the state, at a point slightly south of the central line of the state. It is a strictly rural county, and contains 613 square miles, with a rural population of twenty-four persons to the square mile. There are no places of twenty-five hundred or more population within the county, and but six organized cities, a list of which, together with their population according to the United States Census of 1910, are as follows:

Blue Mound	596
Parker	398
La Cygne	957
Mound City	698
Pleasanton	1,373
Prescott	255

The topography of the country is the somewhat typical rolling land peculiar to southeastern Kansas, and there is practically no manufacturing in the county. The county is divided into 2366 farms, of which occupants 2261 are native whites, 84 are foreign-born whites, and 21 are negroes. The largest number of farms are those of a quarter section or thereabouts, the average size for the county being 150 acres, this size farm comprising about one-third of the whole. Ninety-one per cent of the acreage of the county is incorporated in the farms, of which 76.5 per cent are improved.

The county showed a loss of population between the census of 1900 and 1910 of 11.7 per cent. The percentage of persons ten years old and over who were illiterate is 1.1 per cent, as against an illiteracy rate of 2.2 per cent for the entire state. There are 3637 dwellings in the county and 3675 families. Housing conditions are very good.

Owing to the fact that there was a decrease in the population between the twelfth and the thirteenth census, the census estimate of the population does not show a change of the 1910 figures—this in conformity with their usual custom—and the figures of 1910, namely, 14,735, therefore apply as of July 1, 1915. The state enumeration of March 1, 1915, shows a slight increase of population, namely, 15,011, and these figures were used in calculating the birth and death rate in this county, which for the first eight months of 1915 were as follows:

Death rate	9.3 per thousand.
Birth rate	16.1 per thousand.

It would be difficult to select a county more typical of the general agricultural and stock-raising industries of Kansas than Linn county, and the low death rate and the low birth rate makes such a study of interest. The further fact that the county is bordered on the east by the Missouri state line, and that physicians and undertakers from Missouri are frequently called to practice in the eastern portion of the county, was another element of interest.

The sanitary conditions throughout the county are fair, and the county has been comparatively free from dangerous epidemic diseases for a number of years. The water supplies throughout the county are fairly

well protected and of good quality, although the county does not by any means present an ideal condition in the matter of excreta disposal; still it is believed to be neither better nor worse in this regard than surrounding counties.

The public water supplies are commented on by the engineer of the State Board of Health as follows:

"The waterworks plant at La Cygne was built about 1911; secures water from a well 25 feet in diameter by 40 feet deep, walled with brick. There are about 100 consumers, with an approximate consumption of 20,000 gallons of water per day. There are no sewers in La Cygne. The quality of the water is shown by the laboratory reports to be of fair quality.

"The waterworks plant at Pleasanton was built about 1905. Water is secured from a small pond draining about 200 acres of land and was filtered through an extremely inefficient type of sand filter. During the past year, however, investigations have been made for a ground-water supply which was unsuccessful. Accordingly, during the past two months a design for the improvement of the filter plant was submitted and approved by this department and construction is under way. We have no figures on the number of consumers or the consumption of water at Pleasanton.

"The waterworks at Mound City was built in 1912, following a design of Worley & Black for rapid sand filter. The plant was constructed, however, under the supervision of a local engineer, who had some ideas of his own. Various inspections by this department have resulted in efficient operation for short periods of time, but usually something is found out of order when we visit there. During the past two months hypochlorite has been added, and they are getting fair results. The supply is taken from Little Sugar creek, which has a drainage area of 57 miles above the city. Mound City has no sewer system.

"Neither Blue Mound nor Parker have sewer systems or water systems.

"While the quality of the water at Pleasanton and Mound City does not seem to be as good as could be desired, it must be remembered that the drainage area tributary to the water supply of both of these cities is relatively free from pollution and has a very light population."

In making the survey of the county for births and deaths, particular attention was also paid to such matters of sanitation as could be observed without too great a loss of time, and to reports of sickness from notifiable diseases.

The following reportable diseases have been notified for the first eight months of 1915.

Typhoid fever	5
Diphtheria	4
Scarlet fever	4
Measles	50
Smallpox	12
Mumps	1
Whooping cough	1
Pellagra	1
Chickenpox	6
Tuberculosis	8
Other notifiable diseases	6

The survey was made by the writer, accompanied by Mr. Stewart G. Thompson, assistant state registrar, and Mr. Linn P. Kistler, of our staff. The writer took his personal automobile for his convenience in getting around, and drove from Topeka to La Cygne, a distance of 94 miles, where the first stop within the county was made. A somewhat cursory survey of the conditions at this point was made, after which we drove to

Trading Post, a distance of twelve miles. Trading Post is an inland town—a relic of the days before the railroad—and contains one general store, a blacksmith shop, school, church, and about a half dozen houses. It seemed to be an exceptionally clean town, situated not far from a creek, and with a gratifying absence of manure piles or other fly-breeding nuisances. No births or deaths which had not been reported were found in this vicinity.

We next drove to Pleasanton, a distance of about seven miles, where we stopped overnight. Early the next morning we drove to the town of Linton, a distance of six miles, where Mr. Kistler left the party for the purpose of surveying that locality. There is no town at Linton except the railroad station and one store. There is considerable population, however, within a short distance thereof.

From Linton we drove to Prescott, a distance of four miles, where we found Mr. H. L. Perrin, the local registrar for Sheridan township. We carefully examined his books and found that they had been well kept and that Mr. Perrin was quite familiar with his duties and apparently making a decided effort to enforce the law in his district. We also talked with Dr. F. E. O'Neil, the only physician resident at Prescott, and who enjoys a large percentage of the practice of this township. The doctor was very careful in making his reports, but had occasionally delayed making his birth reports for the given name of the child. He was urged to discontinue this practice and to get his reports in within the time required by the law, and to permit the name of the child to follow by supplemental report later. There are no midwives practicing in this district, and there is no foreign element or community which is likely to employ the same. Two physicians located at Hume, Mo., and one undertaker are frequently employed, particularly along the eastern portion of the township. But from the registrars' books it was apparent that they were reporting promptly and carefully. A number of other persons were interviewed at this point, but no information regarding births and deaths which had not been duly reported was received at Prescott.

We next drove to Mantey, stopping en route to interview many persons along the road. At Mantey we talked to the postmistress, who was very well acquainted throughout the township, which is ten miles east and west and three miles north and south. We secured from her quite an extensive list of births and deaths which had occurred within Stanton township, but upon an examination of the records, which we had with us, we found that they had all been reported with the exception of one death, which occurred in October and which we will take care to see is received with the October report. The registrar lived several miles from the postoffice, and we were unable to reach him, as he was away from home.

From Mantey we drove to Mound City, the county seat, a distance of seven miles, again stopping en route to interview persons along the road, farmhouses, schoolhouses and children. At Mound City we found Mr. J. I. Sheetz, the local registrar, who is a prominent druggist of the town, and certainly a live wire. He was keen on the job and appeared to be thoroughly familiar with everything going on about, not only Mound township, but also Paris township, which is just to the north, the township line being about one-half mile from the city limits of Mound City. Mr. Sheetz was very anxious that Paris township to the north and Stanton township to the south be added to his district. We had a very nice interview with Doctor Mills, who appeared to be very much in favor of the law, but who was somewhat confused as to the distinction between a stillbirth and an abortion, and which we were able to straighten out.

Calls were made on Doctor Wortman and Doctor Roe; Mr. Fisher, the county attorney, and Mr. Dingus, the probate judge. We later met Mr. Chas. Switzer, the local registrar of Paris township, who happened in the city, and Mr. Switzer stated that he was so situated that it was exceedingly inconvenient for him to handle this work, and he was so located

that it was very inconvenient for those having business with him, and asked to be relieved and the district be attached to the Mound City district. Representations were also made to us that the registrar for Stanton township was a bachelor, and inconveniently located, and the request made that this also be attached to this district. These matters were taken under advisement and no decision given at that time.

On the return to Pleasanton from Mound City an effort was made to visit at least one farmhouse on every section (640 acres), but in spite of this diligent inquiry no information was secured of either births or deaths for which reports were not found among our records.

At Pleasanton conferences were held with Doctor Page, the county health officer, Mr. Porter, the local registrar, Taylor & Sons, undertakers and many other persons. There is no question but what in this district the law is being carefully and vigorously enforced.

We were joined by Mr. Kistler late that evening. Mr. Kistler reported that he had an opportunity of an interview with several people who were old residents about Linton, and while he secured from them a considerable number of births and deaths which had occurred in that community, they were all found to be duly reported on our records. After a careful inquiry from the storekeeper and the houses immediately about, Mr. Kistler started on a canvass of the surrounding country. Littell cemetery is located in a northeasterly direction from the station, and was reported to be about five miles from the town of Linton, and as there appeared to be some misapprehension on the part of those having to do therewith, Mr. Kistler thought best to visit that locality. Owing to his inability to secure livery at that point, he walked the distance of five miles there and back, a total of ten miles, making diligent inquiry for births and deaths at all of the houses adjacent to his path. He secured information, and eventually a death certificate, for one death which had not been reported. This was a case of a child of about eight months old who had died from what was apparently diarrhoea and enteritis, and the family had summoned a doctor, but he did not arrive before the child died, and the order was then canceled. The father of the child then went over to Hume, Mo., and purchased a casket and interred the body of the child on the farm. It will be seen from these circumstances that no one who would have to do with the administration of the law came into contact with the case in any way, and it was thought unwise to attempt a prosecution of the father, who, although technically liable, had violated the law through ignorance.

Mr. Kistler returned to Linton in time to take a train for Boicourt, in which place and vicinity he spent the rest of the day. The only information secured from a detailed canvass of this community was of two birth reports, in neither of which case had a physician or midwife been employed. Birth certificates were secured for both of these cases.

The following day Mr. Kistler left for La Cygne for the purpose of working the territory thereabouts, as well as the town. He engaged an automobile at this point and made a canvass of Scott township, including the home of the local registrar, near Cadmus. He secured on this trip one birth certificate in regard to which there seems to be some confusion, it being regarded by some people as a stillbirth, and by others it was affirmed that the child lived about three hours. Neither a physician nor an undertaker was employed. The death certificate, however, was found to be duly filed among our records, but the birth certificate had not been reported. A duplicate of a death certificate was procured, which was found to have been duly reported and recorded on the books of the local registrar, but which had failed to reach this office. No report was received from this registrar for that month, and it is evident that said report was lost in the mails.

There are no towns at either Orchard or Jasper, as the discontinuance of the post office has put them out of business. At La Cygne Mr. Kistler interviewed and examined the records of the two undertakers at this point, and also visited Doctor Clark and Doctor Morrison. These gentle-

men were both familiar with the law and its requirements, and asserted that so far as they were concerned the law is being strictly enforced. From La Cygne Mr. Kistler returned direct to Topeka.

Leaving Pleasanton, the writer and Mr. Thompson drove to Blue Mound, a distance of twenty-two miles.

At Blue Mound the local registrar was found to be the cashier in the bank, who came in contact with people from all parts of the township and seemed to be thoroughly familiar with the conditions in regard to registration, and to be quite familiar with his duties. His books were in good shape. We were unable to see the undertaker at this point, as he was away, but many of the citizens were interviewed.

We next drove to Oakwood, where the usual procedure with regard to interviews was carried out.

Next we drove to Centerville, interviewing people en route and stopping at many places. Here we found a profitable source of information in the postmistress, who seemed to be familiar with everything going on in that neighborhood, and who was willing to give us all the information sought. Doctor Williams, the only doctor at that point, was a comparatively new man, but was enjoying a good practice and was very careful to report his births promptly.

From Centerville we drove to Goodrich, where again we found the postmistress to be a most valuable source of information, but nothing but what was duly reported was uncovered.

Our next point of stop was at Parker, which is in the northwest corner of the county. The registrar here is the proprietor of a furniture store, and is located next door to the only undertaker. The registrar was a man of great exactness in the performance of his duties and very technical in his interpretation of the law and insisted upon promptness in all reports. He was quite well posted on all the points of the law and was very sure that all births and deaths were being recorded. He had secured the active coöperation of the sexton of the cemetery, who was also interviewed. No information was secured at this point that would lead to the belief that the law was not being vigorously enforced.

From Parker we drove home via Greeley, Scipio, and Ottawa. Considerable time was spent in Ottawa in reviewing the work previously done at this point. We drove in all about three hundred miles, with a net result of one unreported death and three unreported births.

From the thoroughness of this canvass, I am convinced that the law is being well enforced in this locality and that births and deaths are being reported. No opposition to the law was encountered. The improvement made by the amendment to the law by the last legislature was much appreciated by those having business therewith, and the constant effort of the department to administer the law fairly and vigorously was commended.

By extending this work through another county it is believed that we will be enabled to form a satisfactory opinion as to the general efficiency of registration within the state.

In an agricultural community of clean American citizens, enjoying a good water supply, good intelligence and habits of decent living, we are justified in expecting a low death rate, and these are the conditions which prevail in Linn county. It is therefore not unreasonable to consider the death rate in this county to be accurate, although exceptionally low.

Credit is due and is hereby extended to Mr. S. G. Thompson and to Mr. L. P. Kistler for their unfailing energy and faithful attention to duty during this work.

The entire expense of the trip was as follows:

Mr. W. J. V. Deacon	\$11.20
Mr. S. G. Thompson	11.45
Mr. L. P. Kistler	14.23
Making a total of	<u>\$36.88</u>

Table No. 2, in the appendix to Part I of this report, shows the total deaths for 1914 by counties by months.

Table No. 3 shows the same for 1915.

Table No. 4 shows the deaths by counties by age and sex in 1914.

Table No. 5 the same for 1915.

Table No. 6 shows the deaths by counties by sex, color, conjugal condition and nativity for 1914.

Table No. 7 shows the same for 1915.

Table No. 8 shows the causes of death by counties for 1914.

Table No. 9 shows the same for 1915.

Table No. 10 shows the death rate per 100,000 population for certain diseases by counties in 1914 and 1915.

From these tables it will be entirely possible to arrive at a very fair understanding of the conditions in each county. In any study, however, of any diseases involving a study of ages, care must be taken to study the age distribution of the population in the district under consideration, as well as the ages at death. In some of our western counties, which are still largely populated by pioneers, the percentage of very young and very old people—in both of which cases the specific death rate for age is extremely high—is so small that the death rate must of necessity be in itself smaller, as the vigorous early adult life is the age of very low specific death rate.

SEX.

The ratio between males and females of both births and deaths for the four years is shown in the following table:

	BIRTHS.		DEATHS.	
	Males.	Females.	Males.	Females.
1912.....	51.1%	48.9%	55.3%	44.7%
1913.....	51.0	49.0	54.3	45.7
1914.....	51.3	48.7	55.7	44.3
1915.....	51.6	48.4	55.3	44.7

COLOR.

In comparison with many of the southern states, Kansas does not have a difficult negro problem, but we must bear in mind at all times the significance of the high negro death rate in communities where they form a considerable element of the population. The federal census of 1910 showed that 3.2 per cent of the population of the state was negro. In 1914, as was shown in the preceding table, the rate for the state was 10.5. The rate for the white population of the state was 10.1 and for the negro population 20.2, it being exactly twice as high as it was for the white. In other words, 3.2 per cent of the population which was negro furnished 6.2 per cent of all of the deaths which occurred.

From some cause for which no reasonable explanation appears to have been offered, the negro seems to present a greatly lowered resistance to certain forms of disease. Particularly is this true of tuberculosis and other diseases of the respiratory system, and it must be remembered that we can not afford to overlook the element of danger to the people in the uncared-for cases of tuberculosis among this class of people. For, as Schneider pointed out in his survey of Atlanta, Ga., the same germ which causes the disease in the negro will cause it in the white people, and for self-protection they must extend the same safeguards to these people as to themselves.

INFANT MORTALITY.

The legislature of 1915 made provision for a Division of Child Hygiene, with, however, a very inadequate appropriation to carry on this work. This division began work on July 1, 1915, but it is not the purpose of this report in any sense to take up the very excellent work which has been done by this division beyond quoting the infant mortality rates.

For the year 1914 the rate was 7.7 per cent and for 1915 was 7 per cent, as compared with the rate of 7.4 in 1912 and 8.8 per cent in 1913.

It is desired particularly to invite the attention of the reader to what an infant mortality rate really is. This rate is based on the number of deaths of children under one year of age, as compared with the reported number of births. However, the most significant fact is that in the year 1914, 2665, and in 1915, 2598 babies under one year of age died, or a total of over 5000 for the biennium. We are safe in saying that more than one-half of these were sacrificed needlessly. The civilization of Kansas will not long continue to stand for this dreadful waste of our most vital resources.

The number of births and deaths and the infant mortality rate by counties for each year will be found in table No. 22, appendix to Part I.

We are naturally very much interested in the number of deaths and their distribution from those diseases which are known to be readily preventable, and the deaths from these causes will be discussed briefly.

TYPHOID FEVER.

The year 1915 showed a marked decrease in the number of deaths from this preventable disease. There were 339 deaths in 1914 and 195 in 1915.

In 1914 there were only 27 counties in the state that did not have deaths from typhoid fever, whereas in 1915 there were 48. The writer frequently has described typhoid fever as a community disgrace, and it is gratifying to note that the year 1915 showed 21 counties had reduced the disgrace of the preceding year by having no deaths from this disease.

Typhoid fever is essentially a disease of youth, and it is our young and vigorous adult life that is paying for our sanitary crimes. Approximately one-half of the deaths occur between the ages of fifteen and thirty-four. In a number of studies it has been found that the percentage of males was considerably higher than females. It is probable, however, that this should not be attributed to any greater resistance to the disease on the part of the female. The fact is that the male, as a rule, is a more migratory sort of an animal and is more likely to be placed in the path of infection from water and milk supplies.

Many authorities assert that children rarely have typhoid fever, but in a study of several thousand cases we find that 5 or 6 per cent of the deaths were in children under five years of age. It is believed that the reason our modern practice finds so much more typhoid fever among children is because with our modern laboratory methods of positive diagnosis it is now possible to make diagnoses of the disease which heretofore were unrecognized. It is entirely possible that as we reach more exact and scientific methods many of the deaths now recorded as diarrhoea and enteritis in children under two years will be found to be typhoid fever.

Here again we find a significant fact that our negro population furnishes a higher proportion of deaths than the white. The 3.2 percentage of our population which is negro furnished, in 1914, 9.1 per cent, and, in 1915, 8.2 per cent of the deaths from typhoid fever.

The specific death rate from this disease in 1912 was 20.4; in 1913, 19.4; in 1914, 20.3, and in 1915, 11.7. In this comparison it is interesting to note the relative rate of other states in the registration area. In the year 1913, which is the last published mortality statistics of the Bureau of the Census, the rate for the registration states was 17.8.

The following states had a lower rate than Kansas:

California	15.9	New Jersey	9.6
Colorado	17.0	New York	10.3
Connecticut	11.3	Pennsylvania	18.1
Maine	12.0	Rhode Island	8.3
Massachusetts	7.9	Vermont	7.8
Michigan	18.4	Washington	10.3
Minnesota	10.8	Wisconsin	9.0
New Hampshire	11.9		

The following states had a higher rate:

Indiana	25.1	Montana	33.3
Kentucky	42.7	Ohio	24.0
Maryland	33.3	Utah	22.2
Missouri	24.4	Virginia	33.3

The sharp decline in the rate for 1915 as compared with the preceding years is largely due to the intensive educational propaganda carried on by the department; to the very excellent work done during the summer of 1914 by the Division of Epidemiology in Sumner county, and by the United States Public Health Service and the department in Wilson county in 1915, and the large number of vaccinations which have been made; these in addition to the very excellent and constant supervision of water supplies by the Division of Water and Sewage. All of these factors have contributed in a measure, but it is probable that the weather conditions which prevailed during the summer of 1915 must also be considered. It is probable that we can not hope to develop this low rate again unless sufficient provision is made by the legislature to carry on a systematic campaign.

MALARIA.

Kansas does not have a high rate from malaria. In 1914 there were 25 deaths certified to this cause, and 26 deaths in 1915. This disease has never been significant in this state, due to the fact that the anopheles mosquito is not common here, except in the southeast corner of the state and in the Missouri river bottom, and there is also to be considered the possibility of error in diagnosis.

SMALLPOX.

There have been a good many cases of smallpox reported in the past two years, but evidently it has been of a very mild form, as only seven deaths have been certified to this cause in 1914 and eight in 1915.

MEASLES.

The control of measles has always been difficult, due to the fact that many parents do not deem it necessary to call a physician when a child is suffering from an attack of measles, and therefore many cases remain unreported; and the further fact that the most infective period of measles is before the disease is usually recognized has much to do with the widespread epidemics which have been common, not only to this state but to the country, for many years. Most people are very much afraid of their children getting scarlet fever, and yet scarlet fever causes only one-half as many deaths as do measles.

In 1914 there were 71 deaths from measles, and 65 in 1915. This corresponds to a specific death rate for 1914 of 4.2 per hundred thousand, and of 3.9 per hundred thousand in 1915. Both of these rates are higher than in 1912, when the rate was 3.5 per hundred thousand, but lower than in 1913, when the rate was 5.9 per hundred thousand.

SCARLET FEVER.

There were 35 deaths each in 1914 and 1915 from scarlet fever. This is a rate of 2.1 per hundred thousand, as against 3.5 in 1912 and 3.0 in 1913. However, as has been stated previously, the grave danger from scarlet fever is in its sequela rather than in the disease itself, and parents should keep a child under close observation for several years after a case of scarlet fever, in order to detect, if possible, the beginnings of an organic lesion of the kidneys or heart which may be exceedingly dangerous later in life.

WHOOPING COUGH.

The number of deaths from this disease has been greater this last biennium than in any previous period. In the year 1914 there were 183 deaths among children, which is a rate of 10.9 per hundred thousand, and in the year 1915 there were 188 deaths, which is a rate of 11.2 per hundred thousand. Both of these rates are considerably higher than the preceding biennium, when the rate for 1912 was 9.2 and the rate for 1913 was 6.9.

So long as parents persist in thinking that it is necessary for their children to have the whooping cough, just so long will this sacrifice of our child life continue. It does not seem possible to arouse parents to the gravity of this condition. There is no sense in this continued loss of life; it is a foolish sacrifice to ignorance.

DIPHTHERIA.

Since the inauguration of the system for the distribution of free diphtheria antitoxin to the indigent of the state in 1910, Kansas has enjoyed quite a low death rate from this disease. Possibly more important, however, than the free distribution of antitoxin itself has been the arrangement whereby it has been sold at a price much lower than the regular price asked. For instance, the 5000-unit package, which is the ordinary curative dose, lists at \$7.50, and under the state arrangement may be sold for \$1.90. This has enabled many people to take advantage of this remedy without having to sign themselves as indigent.

In 1914 there were 170 deaths from diphtheria, which is equivalent to a rate of 10.2, and in 1915 there were 245 deaths, which is equivalent to a rate of 14.7. Both of these rates, however, are higher than for 1912 and 1913, but much below the rate for the registration area of the United States, which in 1913, the last published report, was 18.8 per hundred thousand.

RABIES.

That there is still some rabies in the state is apparent from the fact that there were two deaths in 1914 and three deaths in 1915 attributed to this disease.

PELLAGRA.

The number of deaths certified from pellagra has increased during the past four years, but now that it is generally considered not an infectious disease it is to be hoped that medical science may be able to reduce the number of deaths for the future. There were 19 deaths certified from this cause in 1914 and 22 in 1915. It was stated in the biennial report of this division two years ago that prior to 1912 it was not known that there was any of this disease in the state.

TUBERCULOSIS.

It is to be regretted that during the past biennium there have been no funds available for continuing the active educational propaganda conducted by this department for three years, and which resulted in the saving of many hundreds of lives of Kansas citizens.

During the year 1914 there were certified to this department 1005 deaths from tuberculosis in all forms, of which number 866 were from tuberculosis of the lungs, 16 acute miliary tuberculosis, 24 tuberculous meningitis, 48 abdominal tuberculosis, 12 Pott's disease, 5 white swellings, 31 tuberculosis of other organs, 3 disseminated tuberculosis. This is equivalent to a rate of 60.1 for this year.

In 1915 there were certified 978 deaths, of which 843 were pulmonary tuberculosis, 19 acute miliary; 21 tuberculous meningitis, 52 abdominal tuberculosis, 13 Pott's disease, 7 white swellings, 21 tuberculosis of other organs, and 2 disseminated tuberculosis. This is equivalent to a rate of 58.8 per hundred thousand.

It is gratifying to note the reduction in the rate. In comparison with the other states of the registration area of the United States, Kansas has next to the lowest rate, as will be shown by the following illustration and table.

Kansas

TUBERCULOSIS-Comparison of Death rates

This is certainly encouraging, but it is pertinent to inquire what might have been the rate had we been permitted to continue our special campaign against this disease. It must be borne in mind that tuberculosis is a lingering disease. It does not kill quickly, and it is fair to assume that the decreased rate in the past two years may be attributed in a large measure to the work carried on during 1909, 1910 and 1911. The rate for the four years is as follows:

1912.....	64.1	per 100,000
1913.....	64.6	" "
1914.....	60.1	" "
1915.....	58.5	" "

In comparing this rate, however, with other states we must not lose sight of the many other elements which directly affect the tuberculosis rate. No one who has made any sociological study of this disease can fail to be impressed with the direct relation between income and death rate. Some exceedingly interesting studies of this subject have been published, and there can be no doubt that as the income increases the death rate from tuberculosis diminishes.

The distribution of the death rate by counties will be shown in Table No. 10. This rate, however, probably may be misleading in the extreme western portions of the state, where the population in some of the counties is exceedingly small. As, for instance, in Grant county there was one death from tuberculosis in 1913, but as the population of this county is less than 1000, the rate exceeded 100 per hundred thousand. But in the more populous counties the rate may be used very properly for comparison.

It is generally considered that the handling of tuberculosis is a local problem rather than a state problem, the state being compelled largely to limit its efforts to educational work. The city of Topeka has recently installed a local sanatorium, and there can be no question but that the rate will be reduced.

A short time ago this department addressed letters to those counties and large cities that show a high death rate, and invited their attention to the rate, asking what effort, if any, was being made to reduce the rate in their communities. The following letter will show the form of this inquiry:

APRIL 7, 1916.

Chairman Board of County Commissioners, Iola, Kan.:

DEAR SIR—The forthcoming report of this division will show for your county a very high death rate from tuberculosis, namely, 80.9 per hundred thousand, as compared to 62.8 for the state as a whole.

In order that due credit may be given, I am writing you, as chairman of the county board of health, to ask what measures are being taken by your board to reduce the life waste from this preventable disease, in order that such comment may appear in the report as will do your board entire justice. A very prompt reply is necessary.

Respectfully yours, W. J. V. DEACON, *State Registrar.*

This letter was sent to the chairmen of the boards of county commissioners—which, under the law, are the county boards of health—of the following counties:

County.	Rate per 100,000.
Allen	80.9
Cherokee	124.0
Edwards	89.2
Finney	149.6
Hamilton	177.8
Labette (except Parsons)	89.9
Linn	80.0
Logan	99.8
Miami	123.0
Morton	173.5
Stevens	126.6
Wyandotte (except Kansas City)	95.3

Also to the mayors or commissioners of parks and public buildings of the following cities:

City.	Rate per 100,000.
Lawrence	147.2
Parsons	115.6
Leavenworth	136.4
Independence	107.4
Wichita	83.5
Topeka	95.4
Kansas City	144.5

To these letters the following replies were received:

LEAVENWORTH, KAN., April 10, 1916.

W. J. V. Deacon, Registrar, Topeka, Kan.:

DEAR SIR—Mayor Crancer referred your letter of April 8 to me for answer. All measures known here have been taken for the prevention of tuberculosis and the spread of it, and we think our town is well cared for. Leavenworth is peculiarly situated, with a penitentiary on either side and an Old Soldiers' Home and fort, besides many institutions such as St. Mary's Academy, orphans' homes and St. John's Hospital, that draw a number of outside people.

The families of the old soldiers and prisoners frequently come here during the term of the prisoner or to reside near the old soldier. All prisoners that die in the penitentiaries, and are shipped, are registered here. A large percentage are tubercular, and that accounts for our large number of deaths due to tuberculosis. A number of transients have also died here of tuberculosis, some of whom have been here only a few days.

Very truly yours, STEWART MCKEE, *City Health Officer.*

MOUND CITY, KAN., April 12, 1916.

Mr. W. J. V. Deacon, Registrar, Topeka, Kan.:

DEAR SIR—I am directed by Mr. Harry Curry, chairman of the board of county commissioners, to answer your favor of the 8th. We have had one case of tuberculosis at the county farm in the last three and a quarter years. J. A. King was sent to the farm in an advanced stage of the disease, and soon succumbed to it. Was under the care of the county doctor for Mound City township, and Dr. Geo. A. Paige, county health officer; had the quarters cleaned, fumigated, etc., and clothing and bedding burned. Will ask Doctor Paige to write you and answer your inquiry.

Yours, JOHN A. WOOD, *County Clerk.*

PLEASANTON, KAN.

Mr. W. J. V. Deacon, Registrar, Topeka, Kan.:

DEAR SIR—Yours of April 8, addressed to chairman of the board of county commissioners, Mound City, Kan., relative to high mortality of tuberculosis in this county (Linn). We have had several deaths from this disease in people who have come here from other points. Have always had all premises well fumigated following death from same. I feel that we will never be able to keep our mortality as low as it should be anywhere until these cases are segregated. Respectfully yours,

GEO. A. PAIGE, *County Health Officer.*

LAWRENCE, KAN., April 13, 1916.

Mr. W. J. V. Deacon, Registrar, Topeka, Kan.:

DEAR SIR—Your letter at hand relative to our death rate from tuberculosis, which is very high. I think you are aware of one of the principal causes of this high death rate. Our nurse is taking quite an active part

in this, and she is visiting these poor families and teaching them cleanliness, and our health officer is also very much interested. We hope to lower this rate. Any suggestions you have we would be very glad to receive them. We have a very good housing ordinance; we are going to enforce it. Yours truly,

W. J. FRANCISCO, *Mayor*.

WICHITA, KAN., April 14, 1916.

Mr. W. J. V. Deacon, Registrar, Topeka, Kan.:

DEAR SIR—In regard to the tuberculosis situation in our city: You will note that a great number of deaths reported from this city are people who come in here—are sort of the floater type that seem to strike our city. They arrive when in the last stages and die here, thus making it hard on the report from this city. Then, too, I believe our physicians are reporting their tuberculosis very promptly, thus giving us a showing.

We are very careful about fumigating all premises where death occurs; and also, in cases where the reporting physician does not give instructions, I take the matter up myself.

I can not give any other reason for our large percentage than this: Wichita seems to be the central spot for these poor unfortunates to congregate. The Sedgwick Home seems to bring them, as I suppose the report is passed among them on the road. I regret this is forced upon us, but we are doing all in our power to care for what we have.

Very truly yours,

O. G. HUTCHINSON, M. D., *Secretary*.

KANSAS CITY, KAN., April 12, 1916.

Mr. W. J. V. Deacon, Registrar, State Board of Health, Topeka, Kan.:

DEAR SIR—In reply to your letter of the 7th in regard to the high death rate from tuberculosis in this community, will say that in the past several movements have been launched in the direction of taking steps for better care for sufferers of tuberculosis.

We are now working on a plan which we hope will accomplish some good in the near future. Details of above plan we will advise you of later, but at the earliest possible moment. So kindly wait until you hear from us further before completing your report relative to tuberculosis conditions in this city.

Yours respectfully,

C. W. McLAUGHLIN, *Health Commissioner*.

KANSAS CITY, KAN., April 19, 1916.

Mr. W. J. V. Deacon, Registrar, State Board of Health, Topeka, Kan.:

DEAR SIR—Your letter of April 7, referring to the high death rate in this city from tuberculosis as compared with the state at large, was addressed to the commissioner of parks, who has charge of the health department, but as he is in the hospital at present your letter was referred to me to answer.

There is a very good reason, in my opinion, for this difference in death rate. This city has double the population of any other city in Kansas, and a large percentage of our people are negroes and foreign-born, whose incomes are insufficient to provide better living conditions for their large families.

The city commissioners have offered the county commissioners a tract of thirty-eight acres of land for a county tuberculosis hospital. This property is well located on the high bluffs above the Missouri river and has a number of cottages located on it that could be used.

If the city and county can get together we hope to have a tuberculosis hospital in operation in a very short time.

I am,

Yours very truly,

C. M. GREEN, *Mayor*.

Those other counties having a high rate did not deem it necessary to answer the communication from this department on this subject; consequently we may assume that they are not giving the people any protection whatsoever from this disease.

Owing to the fact that the death rate from tuberculosis among negroes is always exceedingly high, it is not fair to a community to fail to take into consideration the percentage of negro population. In 1914, of the 1005 deaths from this disease, 156 deaths were negroes. From this we find that the tuberculosis death rate for negroes was 310.9 per hundred thousand, and for the white was 52.4 per hundred thousand. In 1915, of the 978 deaths that occurred, 158 were negroes, making the negro death rate 314.6 per hundred thousand, and the white 50.3 per hundred thousand.

We can not hope successfully to combat this disease in the rural communities of the state until some provision can be made for the employment of at least visiting nurses if not whole-time health officers.

CANCER.

Cancer continues to be one of the most serious problems of the day. In spite of the very active work that has been carried on by public and philanthropic agencies to control this disease, but little progress has been made, unless, indeed, it be in the way of a more early recognition.

In Kansas the past four years have shown a steady increase in the number of deaths certified to this cause. It is entirely possible, however, that this increased number of deaths is more apparent than real, as the wider dissemination of knowledge enables physicians to make more accurate diagnosis.

The United States Bureau of the Census has been conducting some special statistical research into the problem, and is soon to issue a special report. This is based upon the more definite location of the neoplasm, as based upon the English nomenclature of some twenty-eight titles, and which research was undertaken at the request of the American Society for the Control of Cancer. It is to be hoped that this report will add much to our present knowledge of this disease.

In 1914 there were 1059 deaths, corresponding to a death rate of 63.4 per hundred thousand; and in 1915 there were 1111 deaths, corresponding to a rate of 66.4. The rate and number of deaths for the four years, 1912 to 1915, inclusive, is given below:

	Number of deaths.	Rate per 100,000.
1912.....	1056	62.5
1913.....	973	57.6
1914.....	1059	63.4
1915.....	1111	66.4

The details will be shown in the following tables, both by counties, by age, and so forth, under the seven subdivisions for locations as reported in the International list.

ORGANIC HEART DISEASE.

As has been the case for a good many years in Kansas, the disease causing more deaths than any other one is organic heart disease, which was responsible for 1454 deaths in 1914, equivalent to a death rate of

86.9 per hundred thousand; and 1665 deaths in 1915, which is a rate of 99.6 per hundred thousand. Both of these rates are considerably in excess of the two preceding years, but are still below the rate for the registration area of the United States, which in 1913 showed a rate of 138.6.

Below will be found the rate for the four years, 1912 to 1915, inclusive:

	Number of deaths.	Rate per 100,000.
1912.....	1436	85.0
1913.....	1427	81.0
1914.....	1414	86.9
1915.....	1665	99.6

Science has not yet given a definite rule whereby we may be enabled to reduce the death rate from this disease beyond the possibility of an early recognition and the application of certain restrictions which may postpone death.

PNEUMONIA AND BRONCHOPNEUMONIA.

The year 1915 showed a considerable increase in deaths from these two causes over 1914. Owing to the indefinite statements so frequently made on death certificates by physicians as to the particular form of pneumonia, it has been thought best in many cases to take the two numbers together. However, in 1914 there were 478 deaths certified from bronchial pneumonia, and in 1915, 717. From pneumonia in 1914 there were 796, and in 1915, 996.

This increase, occurring, as it does, very largely in the last two months of the year, may be attributed in a measure to the epidemic of so-called grippe which was prevalent during that period. Some authorities referred to this disease as pneumococcic grippe, and in most cases, at least, they were not able to demonstrate the influenza bacilli.

DIARRHŒA AND ENTERITIS, UNDER TWO YEARS.

Probably there is no surer index to the importance of public health control than is shown in these diseases. The control of the milk supply of a community is so entirely practical and so entirely effective that it seems a disgrace to any community to permit dirty milk to take its toll of infants' lives.

It is gratifying to note the reduction of deaths from diarrhœa and enteritis in children under two years in the past biennium. In 1914 there were 742 deaths, which is a death rate of 44.4, and in 1915 there were 527 deaths, with a rate of 31.5. The rate in the registration area of the United States for 1913 was 75.2. The number of deaths and the rate for the four years follows:

	Number of deaths.	Rate per 100,000.
1912.....	764	45.2
1913.....	931	52.8
1914.....	742	44.4
1915.....	527	31.5

The reduction in the number of deaths in 1915 as compared with 1914 may be found very largely in the months of July, August and September. As the new Division of Child Hygiene began operation on July 1, it is possible that the work of this division may be credited in a measure with its influence upon the reduction of this rate.

BRIGHT'S DISEASE.

Bright's disease, in common with organic heart disease, has tended to show a continuously increasing number of deaths. Kansas is still considerably below the registration area of the United States, which rate for 1913 was 92.5 per hundred thousand.

Table No. 11 shows the age and sex for each cause of death for 1914, and table No. 12 the same for 1915.

Table No. 13 shows the color, nativity and conjugal condition for each cause of death for 1914, and table No. 14 the same for 1915.

Table No. 15 shows the month of occurrence for each cause of death for 1914, and table No. 16 the same for 1915.

Births.

An interesting comparison of the birth rates for four years is shown in table No. 17, and in table No. 18 will be found the births by counties, giving the sex, color and parent nativity for 1914, and table No. 19 shows the same for 1915.

Table No. 20 shows the births, by counties and months of occurrence in 1914, and table No. 21 the same for 1915.

The maps shown in figures 3 and 4 will show the birth rates for each county graphically.

Marriages.

Table No. 23 will show the number of marriage licenses issued, by years, by months, since the marriage law became effective, on May 1, 1913. The fees which are paid for the registration of marriages support the entire Division of Vital Statistics. This is based on the fact that with the performance of a marriage there is completed a legal contract and a new social status is created, and this fee provides not only for the registration of that contract but for the registration of all children who may be born to this newly created social unit, or family, and the registration of the death of the man and his wife.

The amount of fees which are collected each month is turned over to the state treasurer and a detailed report thereof made to the state auditor. For the amounts thereof and the disbursements the reader is respectfully referred to the report of the state auditor.

Table No. 24 shows the marriage rate per thousand population, by counties, for 1914 and 1915.

KANSAS



Fig 3 Birth rates by counties, 1914

KANSAS



Fig. 4. Birth rates by counties, 1915.

APPENDIX TO PART I.

STATISTICAL TABLES.

(131)

TABLE A. Showing population, deaths and death rates per 1000, by counties, 1914 and 1915.
(Exclusive of stillbirths.)

COUNTIES.	1914.			1915.		
	Population.	Deaths.	Death rate per 1000.	Population.	Deaths.	Death rate per 1000.
Allen.....	23,685	276	11.6	23,515	261	11.1
Anderson.....	12,689	119	8.6	13,264	153	11.5
Atchison, <i>except</i>	13,652	104	7.6	11,964	76	6.4
Atchison city.....	16,429	196	11.9	15,263	196	12.8
Barber.....	10,072	89	8.8	9,203	82	8.9
Barton.....	18,710	195	10.4	18,028	195	10.8
Bourbon, <i>except</i>	13,601	96	7.1	13,610	100	7.3
Fort Scott.....	11,872	180	15.1	11,422	169	14.8
Brown.....	20,518	202	9.9	20,684	190	9.2
Butler.....	20,095	200	9.9	20,788	198	9.5
Chase.....	6,695	73	10.9	7,154	84	11.7
Chautauqua.....	10,712	93	8.7	11,236	123	11.0
Cherokee.....	36,249	507	14.0	36,870	456	12.6
Cheyenne.....	4,082	24	5.7	4,114	33	8.0
Clark.....	4,043	30	7.4	4,290	25	5.8
Clay.....	15,212	182	8.7	14,902	146	9.8
Cloud.....	19,872	179	9.0	19,316	175	9.1
Coffey.....	15,158	140	9.2	14,986	147	9.8
Comanche.....	4,113	38	9.2	4,608	31	6.7
Cowley.....	31,353	405	12.9	29,979	339	11.4
Crawford, <i>except</i>	40,721	412	10.1	42,604	446	10.5
Pittsburg.....	17,732	251	14.2	17,635	231	13.0
Decatur.....	6,828	51	7.5	7,502	71	9.5
Dickinson.....	25,220	202	8.0	25,339	240	9.5
Doniphan.....	15,537	159	10.3	14,544	154	10.6
Douglas, <i>except</i>	12,177	98	7.6	12,246	89	7.3
Lawrence.....	13,239	188	14.2	12,884	201	15.6
Edwards.....	6,750	59	8.7	6,734	60	8.9
Elk.....	10,063	85	8.4	10,035	95	9.5
Ellis.....	12,715	120	9.4	13,197	118	8.9
Ellsworth.....	10,011	99	9.9	10,481	109	10.4
Finney.....	5,615	54	9.6	6,016	71	11.8
Ford.....	12,125	163	13.5	13,152	144	10.9
Franklin.....	20,694	239	11.6	22,103	277	12.5
Geary.....	10,091	103	10.2	10,063	99	9.8
Gove.....	3,771	35	9.3	4,010	34	8.5
Graham.....	7,947	60	7.5	7,466	73	9.8
Grant.....	866	5	5.8	900	10	11.1
Gray.....	3,411	22	6.5	3,674	20	5.5
Greeley.....	982	6	6.1	913	2	2.2
Greenwood.....	14,155	141	10.0	14,500	133	9.2
Hamilton.....	2,239	24	10.7	2,253	26	11.6
Harper.....	12,975	127	9.8	13,316	124	9.3
Harvey.....	18,584	235	12.6	18,663	219	11.7
Haskell.....	896	11	12.3	995	12	12.1
Hodgeman.....	2,846	22	7.7	3,165	22	7.0
Jackson.....	15,847	154	9.7	15,668	171	10.2
Jefferson.....	15,714	135	8.6	15,769	135	11.7
Jewell.....	16,606	151	9.1	17,165	132	7.7
Johnson.....	19,705	205	10.4	18,507	197	10.7
Kearny.....	2,108	16	7.6	2,316	22	9.5
Kingman.....	12,009	108	9.0	12,612	103	8.2
Kiowa.....	6,266	50	8.0	6,464	66	10.2
Labette, <i>except</i>	19,262	181	9.4	18,896	217	11.5
Parsons.....	12,835	190	14.8	12,118	195	16.1
Lane.....	2,110	14	6.6	2,120	20	9.4
Leavenworth, <i>except</i>	19,098	186	9.7	18,535	207	11.2
Leavenworth city.....	21,294	320	15.0	22,090	278	12.6
Lincoln.....	10,133	81	7.9	10,433	72	6.9
Linn.....	16,237	153	9.4	15,013	153	10.2
Logan.....	2,822	21	7.4	3,013	30	10.0
Lyon.....	26,438	229	8.7	26,468	292	11.1
Marion.....	22,106	190	8.6	21,577	205	9.5
Marshall.....	21,881	221	10.1	21,757	190	8.7
McPherson.....	20,786	206	9.9	21,233	225	10.6
Meade.....	5,044	33	6.5	5,276	39	7.4
Miami.....	19,466	313	16.1	18,676	333	18.1
Mitchell.....	14,291	126	8.8	13,731	143	10.4
Montgomery, <i>except</i>	22,220	244	11.0	22,452	239	10.6
Coffeyville.....	15,475	194	12.5	15,223	160	10.5
Independence.....	9,121	145	15.9	12,144	163	13.4
Morris.....	11,658	105	9.0	11,810	101	8.5

TABLE A—CONCLUDED.

COUNTIES.	1914.			1915.		
	Population.	Deaths.	Death rate per 1000.	Population.	Deaths.	Death rate per 1000.
Morton.....	1,582	8	5.1	1,729	6	3.5
Nemaha.....	19,418	172	8.9	18,809	185	10.1
Neosho.....	23,881	257	11.0	23,050	221	9.6
Ness.....	6,075	38	6.2	5,547	61	11.2
Norton.....	10,129	102	10.1	10,398	110	10.6
Osage.....	20,014	187	9.4	20,072	211	10.5
Osborne.....	12,712	117	9.2	12,973	116	8.9
Ottawa.....	11,428	99	8.7	11,605	114	9.8
Pawnee.....	7,846	91	11.6	8,651	93	10.8
Phillips.....	12,675	101	8.0	13,220	108	8.2
Pottawatomie.....	16,415	148	9.0	16,105	140	8.7
Pratt.....	11,081	108	9.8	11,642	95	8.2
Rawlins.....	5,419	62	11.4	5,702	42	7.4
Reno, <i>except</i>	21,218	177	8.3	21,248	141	6.6
Hutchinson.....	18,520	213	11.4	19,200	206	10.7
Republic.....	17,208	146	8.5	16,915	128	7.6
Rice.....	14,291	187	9.6	14,487	139	9.7
Riley.....	17,591	140	8.0	16,518	161	9.8
Rooks.....	10,167	97	9.5	10,596	67	6.3
Rush.....	7,435	57	7.7	8,065	60	7.4
Russell.....	10,996	93	8.5	11,047	118	10.7
Saline.....	20,860	162	7.8	20,665	245	11.8
Scott.....	2,203	11	5.0	2,288	17	7.4
Sedgwick, <i>except</i>	19,092	134	7.0	19,712	126	6.4
Wichita.....	59,716	660	11.1	53,582	778	14.5
Seward.....	4,187	29	7.1	4,498	40	8.9
Shawnee, <i>except</i>	20,251	188	7.3	17,914	314	17.1
Topeka.....	49,840	820	16.5	46,747	674	14.4
Sheridan.....	4,342	30	6.9	4,873	30	6.2
Sherman.....	4,018	38	9.5	4,043	32	7.9
Smith.....	15,549	144	9.3	15,808	126	8.2
Stafford.....	11,304	108	9.5	11,383	114	10.0
Stanton.....	673	7	10.4	824	2	2.4
Stevens.....	2,217	22	10.0	2,370	16	6.8
Sumner.....	27,807	304	10.9	28,027	283	10.1
Thomas.....	3,530	36	10.2	3,996	38	9.5
Trego.....	4,314	32	7.4	4,623	32	6.9
Wabaunsee.....	12,173	105	8.6	11,904	105	8.8
Wallace.....	2,016	13	6.4	2,090	19	9.1
Washington.....	19,870	160	8.2	19,001	142	7.5
Wichita.....	1,410	7	5.0	1,519	15	9.9
Wilson.....	19,008	209	11.0	20,067	196	9.7
Woodson.....	9,152	86	9.4	9,331	90	9.6
Wyandotte, <i>except</i>	18,662	243	13.0	18,891	253	13.4
Kansas City.....	87,834	1,234	14.1	91,658	1,344	14.7

TABLE B. Showing population, births and birth rates, by counties, 1914 and 1915.
(Exclusive of stillbirths.)

COUNTIES.	1914.			1915.		
	Population.	Births.	Birth rate per 1000.	Population.	Births.	Birth rate per 1000.
Allen.....	23,685	418	17.6	23,575	533	22.7
Anderson.....	12,689	236	18.6	13,264	270	20.3
Atchison, <i>except</i>	13,652	217	15.9	11,964	213	17.7
Atchison city.....	16,429	244	14.9	15,263	232	15.2
Barber.....	10,072	203	20.1	9,203	236	25.6
Barton.....	18,710	428	22.9	18,028	441	24.5
Bourbon, <i>except</i>	13,601	251	18.5	13,610	271	19.9
Fort Scott.....	11,872	224	18.8	11,422	222	19.5
Brown.....	20,513	584	26.0	20,634	459	22.2
Butler.....	20,095	478	23.5	20,788	422	20.3
Chase.....	6,695	166	24.8	7,154	162	22.6
Chautauqua.....	10,712	245	22.9	11,236	260	23.2
Cherokee.....	36,249	843	23.3	36,370	825	22.7
Cheyenne.....	4,082	109	26.6	4,114	119	28.9
Clark.....	4,043	109	27.0	4,290	132	30.8
Clay.....	15,212	358	23.5	14,902	352	23.6
Cloud.....	19,872	438	22.0	19,316	468	24.2
Coffey.....	15,158	278	18.0	14,986	270	18.0
Comanche.....	4,113	140	34.1	4,608	111	24.1
Cowley.....	31,353	622	19.8	29,979	669	22.3
Crawford, <i>except</i>	40,721	949	23.3	42,604	1,065	25.0
Pittsburg.....	17,732	341	19.3	17,685	324	18.4
Decatur.....	6,828	137	20.1	7,502	190	25.3
Dickinson.....	25,220	546	21.7	25,339	583	23.1
Doniphan.....	15,537	361	23.3	14,544	327	22.5
Douglas, <i>except</i>	12,177	200	16.3	12,246	191	15.6
Lawrence.....	13,239	179	13.6	12,884	194	15.0
Edwards.....	6,750	156	23.1	6,734	158	23.5
Elk.....	10,063	163	16.1	10,035	200	19.9
Ellis.....	12,715	493	38.8	13,197	493	37.4
Ellsworth.....	10,011	261	26.1	10,481	266	25.3
Finney.....	5,615	125	22.2	6,016	105	17.5
Ford.....	12,125	399	33.0	13,152	387	29.3
Franklin.....	20,694	429	20.7	22,103	423	19.1
Geary.....	10,091	199	19.7	10,063	232	23.0
Gove.....	3,771	89	23.6	4,010	122	30.4
Graham.....	7,947	134	23.1	7,466	205	27.5
Grant.....	866	18	20.8	900	10	11.1
Gray.....	3,411	102	29.9	3,674	88	24.0
Greeley.....	982	17	17.3	913	10	11.1
Greenwood.....	14,155	281	19.9	14,500	344	23.7
Hamilton.....	2,239	55	24.5	2,253	52	23.1
Harper.....	12,975	292	22.5	13,316	335	25.2
Harvey.....	18,584	424	22.8	18,663	461	24.6
Haskell.....	896	25	27.9	995	24	24.1
Hodgeman.....	2,846	71	24.9	3,165	88	27.8
Jackson.....	15,847	305	19.3	15,668	324	20.6
Jefferson.....	15,714	299	19.0	15,769	319	20.3
Jewell.....	16,606	417	25.1	17,165	390	22.7
Johnson.....	19,705	328	16.6	18,507	322	17.4
Kearny.....	2,108	49	23.3	2,316	64	27.6
Kingman.....	12,009	289	24.1	12,612	322	25.5
Kiowa.....	6,266	194	31.0	6,464	198	30.6
Labette, <i>except</i>	19,262	329	17.0	18,896	337	20.5
Parsons.....	12,835	235	18.3	12,118	268	22.1
Lane.....	2,110	52	24.6	2,120	61	28.8
Leavenworth, <i>except</i>	19,098	271	14.2	18,535	304	16.4
Leavenworth city.....	21,294	334	15.7	22,090	331	15.0
Lincoln.....	10,183	271	26.5	10,433	271	25.8
Linn.....	16,237	284	17.5	15,013	283	19.2
Logan.....	2,822	56	19.9	3,013	61	20.3
Lyon.....	26,438	522	19.8	26,463	504	19.0
Marion.....	22,106	550	24.9	21,577	534	24.7
Marshall.....	21,831	430	19.6	21,757	433	19.9
McPherson.....	20,786	436	23.4	21,233	434	22.8
Meade.....	5,044	124	24.6	5,276	166	31.5
Miami.....	19,466	339	17.4	18,676	321	17.2
Mitchell.....	14,291	288	20.1	13,731	303	22.5
Montgomery, <i>except</i>	22,220	401	18.1	22,452	520	23.1
Coffeyville.....	15,475	307	19.8	15,223	263	17.6
Independence.....	9,121	210	23.0	12,144	194	16.0

TABLE B—CONCLUDED.

COUNTIES.	1914.			1915.		
	Population.	Births.	Birth rate per 1000.	Population.	Births.	Birth rate per 1000.
Morris.....	11,658	260	22.2	11,810	266	22.5
Morton.....	1,582	35	22.1	1,729	26	15.0
Nemaha.....	19,418	446	23.0	18,809	414	22.6
Neosho.....	23,331	485	20.8	23,050	502	21.8
Ness.....	6,075	102	16.8	5,547	147	26.5
Norton.....	10,129	250	24.7	10,393	309	29.7
Osage.....	20,014	426	21.3	20,072	415	20.7
Osborne.....	12,712	309	24.3	12,973	297	22.8
Ottawa.....	11,428	241	21.1	11,605	244	21.0
Pawnee.....	7,846	168	21.4	8,651	185	21.4
Phillips.....	12,675	255	20.0	13,220	327	24.8
Pottawatomie.....	16,415	374	22.7	16,105	371	23.0
Pratt.....	11,031	239	21.7	11,642	254	21.9
Rawlins.....	5,419	144	26.6	5,702	162	28.2
Reno, <i>except</i>	21,218	571	27.0	21,248	537	25.1
Hutchinson.....	18,520	339	18.3	19,200	366	19.0
Republic.....	17,208	413	24.0	16,915	358	21.2
Rice.....	14,291	338	23.6	14,437	332	23.0
Riley.....	17,591	344	19.5	16,518	376	22.7
Rooks.....	10,167	273	26.8	10,596	228	21.5
Rush.....	7,435	199	26.7	8,065	219	27.1
Russell.....	10,996	205	18.4	11,047	236	21.2
Saline.....	20,860	408	19.5	20,665	447	21.6
Scott.....	2,203	47	21.4	2,288	55	24.0
Sedgwick, <i>except</i>	19,092	404	21.1	19,712	472	24.0
Wichita.....	59,716	1,005	16.9	53,582	1,045	19.6
Seward.....	4,187	89	21.2	4,498	121	26.9
Shawnee, <i>except</i>	20,251	283	13.9	17,914	308	17.2
Topeka.....	49,840	995	19.1	46,747	1,070	24.0
Sheridan.....	4,842	116	26.7	4,873	150	30.7
Sherman.....	4,013	92	22.9	4,043	91	22.5
Smith.....	15,549	361	23.3	15,308	394	25.7
Stafford.....	11,304	297	26.4	11,383	307	26.9
Stanton.....	673	12	17.8	824	26	31.6
Stevens.....	2,217	63	18.4	2,370	51	21.5
Sumner.....	27,807	636	22.9	28,027	698	24.9
Thomas.....	3,530	77	21.4	3,996	96	24.0
Trego.....	4,314	85	19.7	4,623	140	30.3
Wabaunsee.....	12,173	241	19.8	11,904	309	25.9
Wallace.....	2,016	59	29.2	2,090	60	28.7
Washington.....	19,370	416	21.4	19,001	420	22.0
Wichita.....	1,410	18	12.8	1,519	29	19.0
Wilson.....	19,008	523	27.3	20,067	477	23.7
Woodson.....	9,152	160	17.5	9,331	211	22.6
Wyandotte, <i>except</i>	18,662	330	17.6	18,891	363	19.2
Kansas City.....	87,334	1,993	22.8	91,658	2,102	22.9

TABLE No. 1. Showing comparison of death rates, 1912 to 1915, inclusive.

COUNTIES.	Death rate per 1000 population.			
	1915.	1914.	1913.	1912.
Allen.....	11.1	11.6	10.8	9.5
Anderson.....	11.5	8.6	10.0	10.0
Atchison, <i>except</i>	6.4	7.6	8.3	6.2
Atchison city.....	12.8	11.9	12.1	11.6
Barber.....	8.9	8.8	7.7	7.8
Barton.....	10.8	10.4	10.1	9.3
Bourbon, <i>except</i>	7.8	7.1	7.8	7.4
Fort Scott.....	14.8	15.1	18.1	16.1
Brown.....	9.2	9.9	8.2	10.0
Butler.....	9.5	9.9	8.4	8.0
Chase.....	11.7	10.9	9.1	7.0
Chautauqua.....	11.0	8.7	9.1	9.8
Cherokee.....	12.6	14.0	12.6	12.3
Cheyenne.....	8.0	5.7	7.1	6.2
Clark.....	5.8	7.4	6.1	9.5
Clay.....	9.8	8.7	9.4	7.9
Cloud.....	9.1	9.0	10.8	10.2
Coffey.....	9.8	9.2	10.3	9.9
Comanche.....	6.7	9.2	7.9	8.8
Cowley.....	11.4	12.9	11.0	11.1
Crawford, <i>except</i>	10.5	10.1	12.8	11.2
Pittsburg.....	18.0	14.2	15.9	16.8
Decatur.....	9.5	7.5	8.4	6.6
Dickinson.....	9.5	8.0	8.2	9.6
Doniphan.....	10.6	10.3	9.1	8.7
Douglas, <i>except</i>	7.3	7.6	8.6	8.7
Lawrence.....	15.6	14.2	14.4	12.3
Edwards.....	8.9	8.7	8.2	7.0
Elk.....	9.5	8.4	8.3	8.7
Ellis.....	8.9	9.4	8.1	9.2
Ellsworth.....	10.4	9.9	11.8	8.8
Finney.....	11.8	9.6	12.5	9.0
Ford.....	10.9	13.5	12.4	11.8
Franklin.....	12.5	11.6	11.6	12.3
Geary.....	9.8	10.2	11.2	8.7
Gove.....	8.5	9.3	8.1	5.0
Graham.....	9.8	7.5	6.9	6.3
Grant.....	11.1	5.8	9.4	6.4
Gray.....	5.5	6.5	5.7	9.0
Greeley.....	2.2	6.1	8.9	6.2
Greenwood.....	9.2	10.0	8.4	7.8
Hamilton.....	11.6	10.7	6.8	6.8
Harper.....	9.3	9.8	9.6	7.6
Harvey.....	11.7	12.6	11.2	9.8
Haskell.....	12.1	12.8	9.8	4.0
Hodgeman.....	7.0	7.7	9.3	7.6
Jackson.....	10.2	9.7	9.4	9.0
Jefferson.....	11.7	8.6	12.3	11.4
Jewell.....	7.7	9.1	8.8	9.1
Johnson.....	10.7	10.4	11.2	10.9
Kearny.....	9.5	7.6	9.2	5.6
Kingman.....	8.2	9.0	6.2	8.1
Kiowa.....	10.2	8.0	8.2	8.4
Labette, <i>except</i>	11.5	9.4	10.7	9.4
Parsons.....	16.1	14.8	14.1	14.3
Lane.....	9.4	6.6	7.7	4.6
Leavenworth, <i>except</i>	11.2	9.7	7.3	8.8
Leavenworth city.....	12.6	15.0	18.2	17.2
Lincoln.....	6.9	7.9	9.7	7.8
Linn.....	10.2	9.4	9.9	10.0
Logan.....	10.0	7.4	6.2	6.4
Lyon.....	11.1	8.7	11.3	10.6
Marion.....	9.5	8.6	9.2	9.0
Marshall.....	8.7	10.1	9.1	8.4
McPherson.....	10.6	9.9	10.7	8.7
Meade.....	7.4	6.5	9.2	7.9
Miami.....	18.1	16.1	16.9	14.7
Mitchell.....	10.4	8.8	11.5	9.4
Montgomery, <i>except</i>	10.6	11.0	10.7	9.3
Coffeyville.....	10.5	12.5	10.4	14.3
Independence.....	13.4	15.9	10.9	12.0
Morris.....	8.5	9.0	9.9	7.7
Morton.....	8.5	5.1	7.6	2.3
Nemaha.....	10.1	8.9	8.4	8.7
Neosho.....	9.6	11.0	11.5	10.9

TABLE No. 1—CONTINUED.

COUNTIES.	Death rate per 1000 population.			
	1915.	1914.	1913.	1912.
Ness.....	11.2	6.2	8.9	5.3
Norton.....	10.6	10.1	8.7	7.1
Osage.....	10.5	9.4	9.5	8.8
Osborne.....	8.9	9.2	9.5	7.3
Ottawa.....	9.8	8.7	9.2	8.9
Pawnee.....	10.8	11.6	10.0	8.6
Phillips.....	8.2	8.0	7.3	6.1
Pottawatomie.....	8.7	9.0	8.5	7.3
Pratt.....	8.2	9.8	8.1	7.7
Rawlins.....	7.4	11.4	7.8	6.1
Reno, <i>except</i>	6.6	8.3	6.4	6.0
Hutchinson.....	10.7	11.5	11.8	16.3
Republic.....	7.6	8.5	10.0	8.8
Rice.....	9.7	9.6	8.3	8.5
Riley.....	9.8	8.0	9.8	11.3
Rooks.....	6.8	9.5	7.8	7.7
Rush.....	7.4	7.7	8.9	8.2
Russell.....	10.7	8.5	8.3	8.7
Saline.....	11.8	7.8	9.6	9.1
Scott.....	7.4	5.0	7.1	8.2
Sedgwick, <i>except</i>	6.4	7.0	8.1	6.1
Wichita.....	14.5	11.1	10.8	13.2
Seward.....	8.9	7.1	10.0	8.1
Shawnee, <i>except</i>	17.1	7.3	7.4	6.8
Topeka.....	14.4	16.5	19.5	19.1
Sheridan.....	6.2	6.9	5.8	5.0
Sherman.....	7.9	9.5	8.6	6.4
Smith.....	8.2	9.3	6.9	7.5
Stafford.....	10.0	9.5	10.8	7.0
Stanton.....	2.4	10.4	12.9	5.0
Stevens.....	6.8	10.0	6.8	6.0
Sumner.....	10.1	10.9	8.4	7.8
Thomas.....	9.5	10.2	8.4	5.1
Trego.....	6.9	7.4	4.3	6.1
Wabaunsee.....	8.8	8.6	8.2	9.1
Wallace.....	9.1	6.4	6.4	4.0
Washington.....	7.5	8.2	10.8	7.9
Wichita.....	9.9	5.0	5.3	2.5
Wilson.....	9.7	11.0	12.3	10.2
Woodson.....	9.6	9.4	9.2	11.4
Wyandotte, <i>except</i>	13.4	13.0	17.5	11.1
Kansas City.....	14.7	14.1	15.4	17.1

TABLE No. 2. Total deaths for 1914, by counties, by months.

COUNTIES.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Totals.....	1,621	1,398	1,697	1,426	1,422	1,800	1,477	1,399	1,284	1,431	1,429	1,613	17,497
Allen.....	20	26	20	28	20	20	20	27	20	32	22	21	276
Anderson.....	10	9	11	19	10	6	8	8	9	6	6	17	119
Atchison, except Atchison city.....	9	14	8	5	9	8	5	10	8	13	6	9	104
Barber.....	11	19	11	11	22	11	16	16	21	14	23	21	196
Barton.....	3	4	6	11	11	7	7	10	8	7	7	8	89
Bourbon.....	20	14	23	18	17	14	21	20	18	17	8	15	195
Bourbon, except Fort Scott.....	5	11	10	13	13	4	5	9	6	9	10	6	96
Brown.....	11	16	18	12	17	21	20	15	12	14	10	14	180
Brown.....	19	19	24	16	14	9	28	13	11	13	18	23	202
Butler.....	17	17	26	14	18	9	18	16	14	12	24	15	200
Chase.....	9	6	6	3	7	10	9	6	3	5	5	4	78
Chautauqua.....	5	11	7	14	2	5	7	7	6	13	4	12	93
Cherokee.....	46	41	48	48	31	41	31	35	40	50	53	43	507
Cheyenne.....	1	2	8	1	1	2	3	2	2	1	2	4	24
Clark.....	4	1	5	0	2	4	3	5	1	2	1	2	30
Clay.....	12	12	13	15	11	8	11	7	9	10	8	16	182
Cloud.....	22	14	18	16	15	19	11	15	14	14	12	14	179
Coffey.....	17	21	13	15	11	11	5	7	7	11	12	10	140
Comanche.....	4	2	7	2	1	6	4	0	4	1	3	4	38
Cowley.....	25	22	34	31	35	31	44	45	36	28	41	33	405
Crawford, except Pittsburg.....	53	39	26	34	20	39	29	21	32	38	41	40	412
Pittsburg.....	23	16	32	17	23	22	26	13	18	13	26	22	251
Decatur.....	8	3	3	7	8	5	1	4	2	1	4	5	51
Dickinson.....	19	12	13	13	18	16	26	20	17	16	14	18	202
Doniphan.....	13	11	13	16	17	17	8	13	10	19	7	15	159
Douglas, except Lawrence.....	5	7	15	12	8	4	4	7	8	13	7	3	98
Lawrence.....	10	20	18	15	18	10	15	18	13	12	17	22	188
Edwards.....	6	2	3	6	6	4	6	5	4	4	6	7	59
Elk.....	10	3	9	11	5	8	3	6	6	8	10	6	85
Ellis.....	17	5	19	9	4	10	6	8	17	14	4	7	120
Ellsworth.....	6	11	8	5	5	9	12	12	8	6	5	10	99
Finney.....	5	6	1	0	2	2	8	7	8	4	8	3	54
Ford.....	12	10	11	15	7	19	17	15	17	9	18	13	163
Franklin.....	20	19	18	13	20	12	16	16	20	31	22	27	239
Geary.....	10	6	12	9	5	7	16	4	8	4	11	11	103
Gove.....	2	2	6	4	1	3	1	4	3	2	3	4	35
Graham.....	6	5	11	6	6	1	4	4	2	2	7	6	60
Grant.....	1	0	0	1	1	1	0	1	0	0	0	0	5
Gray.....	3	2	2	2	1	2	1	0	2	4	1	2	22
Greeley.....	2	2	0	0	0	0	0	0	0	1	1	0	6
Greenwood.....	12	12	8	13	12	7	10	11	11	13	15	12	141

Hamilton.....	1	4	2	5	2	0	1	1	2	13	2	0	1	3	2	11	2	24
Harper.....	11	12	10	12	13	20	13	16	15	28	18	20	21	16	15	16	13	127
Harvey.....	20	25	25	15	1	13	0	1	1	1	1	1	1	1	1	1	1	235
Haskell.....	0	1	4	2	4	0	4	3	2	17	1	0	0	3	2	0	0	11
Hodgeman.....	1	9	20	13	1	11	11	13	17	5	11	12	12	13	13	1	1	22
Jackson.....	12	9	9	7	17	4	4	8	13	1	1	9	9	8	18	10	12	154
Jefferson.....	15	15	9	13	10	11	10	17	17	10	17	9	12	12	9	14	14	185
Jewell.....	17	18	15	13	14	12	10	13	13	10	13	15	15	9	18	11	11	161
Johnson.....	26	19	18	22	14	18	18	15	18	14	14	12	12	7	16	16	20	205
Kearny.....	0	1	2	1	2	0	0	2	2	2	0	3	3	2	1	1	1	16
Kingman.....	7	8	10	9	4	9	9	13	9	4	1	14	14	13	9	9	9	108
Kiowa.....	7	1	6	0	5	2	2	4	0	5	0	8	8	4	6	6	1	50
Labette, except.....	18	13	22	15	17	15	15	13	13	17	13	14	14	13	13	13	26	181
Parsons.....	7	14	14	14	13	14	14	13	13	13	18	19	19	13	21	21	20	190
Lane.....	2	2	8	0	0	21	0	1	1	0	0	1	16	1	0	1	1	14
Leavenworth, except.....	16	12	12	19	9	48	12	12	12	9	18	16	22	12	14	21	21	186
Leavenworth city.....	37	30	41	20	18	5	4	4	4	5	5	7	22	15	27	25	25	320
Lincoln.....	5	5	11	20	4	14	13	13	13	8	18	11	7	10	11	4	16	81
Linn.....	16	15	15	13	1	2	1	1	1	1	1	11	11	10	12	16	16	153
Logan.....	4	2	2	1	1	22	2	4	4	1	8	4	4	4	0	0	0	21
Lyon.....	32	12	17	20	20	22	20	10	10	21	21	20	20	10	15	35	35	229
Marion.....	19	20	21	17	17	15	14	13	14	14	14	14	14	20	16	12	12	190
Marshall.....	20	24	24	22	22	17	22	18	20	17	17	13	13	20	8	23	23	221
McPherson.....	11	16	28	17	21	8	1	1	1	3	21	17	17	9	17	21	21	206
Meade.....	1	3	5	1	3	23	24	4	24	22	8	5	5	2	3	2	2	33
Miami.....	25	29	82	24	22	10	9	9	9	5	16	1	20	25	31	40	40	313
Mitchell.....	10	10	11	24	22	23	24	22	22	6	9	20	9	13	14	17	17	126
Montgomery, except.....	22	10	21	9	19	10	9	13	14	19	9	9	23	14	25	29	29	244
Coffeyville.....	12	16	18	28	11	16	18	18	21	11	10	21	21	18	18	18	18	194
Independence.....	11	11	14	20	9	9	20	16	14	9	11	14	14	14	7	14	14	145
Morris.....	12	9	9	12	5	9	12	9	2	5	9	2	2	9	8	9	9	105
Morton.....	1	0	1	0	1	1	0	0	1	1	0	0	1	0	2	1	1	8
Nemaha.....	17	7	19	17	12	13	17	17	12	1	17	17	17	17	7	16	16	172
Neosho.....	31	18	84	19	14	18	14	19	25	14	19	25	25	25	14	25	25	257
Ness.....	3	7	4	3	1	8	3	1	2	1	1	2	2	4	1	2	2	88
Norton.....	6	7	11	8	8	14	8	4	5	8	4	5	5	1	1	9	9	102
Osage.....	16	15	21	17	12	12	17	4	15	12	19	10	15	11	11	14	14	187
Osborne.....	13	8	15	10	6	5	10	13	6	6	13	6	6	10	26	11	11	117
Ottawa.....	13	15	12	9	5	4	9	7	7	5	7	7	7	10	7	9	9	99
Pawnee.....	7	10	5	5	5	6	5	9	9	5	9	9	9	10	3	11	11	91
Phillips.....	10	12	9	7	3	16	7	9	6	3	9	6	6	7	6	13	13	101
Pottawatomie.....	18	16	18	11	6	8	11	17	9	6	17	9	9	15	9	15	15	148
Pratt.....	2	9	6	9	9	9	7	11	12	11	13	8	8	17	5	14	14	108
Rawlins.....	4	7	7	4	4	4	4	7	7	4	6	7	7	4	5	5	5	62
Reno, except.....	20	13	29	13	17	15	13	4	17	17	9	11	11	13	16	11	11	177
Hutchinson.....	17	18	20	28	16	14	28	17	16	10	23	21	21	11	11	15	15	213
Republic.....	18	16	16	12	10	10	12	5	10	9	5	18	18	12	13	9	9	146
Rice.....	12	13	9	6	9	15	6	15	9	9	15	15	15	9	11	16	16	137
Riley.....	10	14	16	9	16	13	9	17	14	10	17	16	16	9	13	16	16	140
Rooks.....	11	8	12	9	9	8	9	8	6	6	8	8	7	10	4	8	8	97

TABLE No. 2—CONCLUDED.

COUNTIES.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Rush.....	5	3	4	4	6	4	7	6	3	10	3	2	57
Russell.....	9	11	10	6	7	8	9	8	9	7	6	8	98
Saline.....	19	11	15	5	13	11	16	12	9	17	19	15	162
Scott.....	0	2	1	1	8	0	0	2	1	0	1	0	11
Sedgwick, except	7	8	11	7	14	8	11	13	12	10	19	14	134
Wichita.....	50	45	57	47	53	49	65	47	61	66	49	66	660
Seward.....	2	3	1	5	4	2	2	4	1	2	3	0	29
Shawnee, except	13	13	19	12	9	6	9	10	10	9	16	12	138
Topeka.....	84	65	82	72	74	57	72	54	60	60	62	78	820
Sheridan.....	0	0	0	5	7	4	2	5	2	2	1	2	30
Sherman.....	1	8	2	2	4	5	3	1	6	8	1	2	38
Smith.....	14	12	17	9	10	9	16	15	11	11	13	7	144
Stafford.....	12	3	14	5	10	14	14	8	6	7	7	8	108
Stanton.....	1	0	0	0	3	1	0	0	0	0	0	2	7
Stevens.....	5	3	3	0	1	2	2	2	2	1	1	0	22
Sumner.....	24	26	29	19	24	25	38	27	29	24	24	20	304
Thomas.....	4	3	4	1	4	1	4	1	5	0	6	3	36
Trego.....	3	1	4	2	0	4	1	4	4	2	4	3	32
Wabaunsee.....	10	7	18	12	9	9	2	7	7	9	5	10	105
Wallace.....	1	1	2	0	0	2	2	1	0	2	1	1	13
Washington.....	10	11	11	10	14	12	14	19	17	19	8	15	160
Wichita.....	2	2	1	0	0	0	0	1	0	1	0	0	7
Wilson.....	26	16	14	12	9	17	19	13	11	19	20	33	209
Woodson.....	16	5	5	6	10	13	4	8	3	7	4	5	86
Wyandotte, except	31	16	18	26	21	19	20	14	19	24	16	19	243
Kansas City.....	133	83	119	98	87	98	107	106	77	100	112	114	1,284

TABLE No. 3. Total deaths for 1915 by counties, by months.

COUNTIES.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Totals.....	1,668	1,492	1,778	1,534	1,395	1,268	1,308	1,354	1,297	1,392	1,388	1,927	17,796
Allen.....	24	25	27	22	12	20	17	25	21	18	19	31	261
Anderson.....	18	13	18	14	7	11	11	10	11	10	11	19	153
Atchison, except Atchison city.....	12	9	12	3	4	5	4	4	6	3	7	7	76
Barber.....	17	7	17	13	16	15	13	10	15	16	18	39	196
Barton.....	5	9	8	5	4	3	5	8	7	12	7	9	82
Bourbon.....	14	16	20	10	12	19	14	19	10	15	27	19	195
Bourbon, except Fort Scott.....	9	9	12	13	7	4	4	5	10	10	7	10	100
Brown.....	20	13	18	15	12	12	11	10	18	10	11	19	169
Butler.....	28	12	20	16	13	12	10	14	15	12	10	23	190
Chase.....	17	20	21	15	12	12	17	11	15	20	13	25	198
Chautauqua.....	11	12	6	10	6	7	3	6	3	11	4	5	84
Cherokee.....	12	8	13	12	7	6	12	13	14	6	8	12	123
Cheyenne.....	48	37	49	31	40	32	29	35	31	29	32	63	456
Clark.....	0	2	2	9	2	1	1	3	3	3	6	1	33
Clay.....	2	3	4	0	1	2	2	2	2	2	3	2	25
Cloud.....	17	13	16	17	5	10	9	10	7	14	15	13	146
Coffey.....	15	13	15	15	12	10	13	12	17	12	15	21	175
Coffey.....	10	24	14	18	16	9	4	11	11	9	7	14	147
Comanche.....	1	0	7	6	0	7	3	4	0	1	0	2	31
Cowley.....	23	26	37	37	25	28	27	19	19	23	32	43	339
Crawford, except Pittsburg.....	33	43	50	39	32	30	35	48	39	27	31	39	446
Decatur.....	24	19	31	23	20	12	18	11	13	16	17	27	231
Dickinson.....	4	5	5	5	8	10	3	6	7	6	4	8	71
Doniphan.....	27	20	23	16	24	14	18	23	15	15	17	23	240
Doniphan.....	10	25	14	18	16	8	10	7	15	12	8	11	154
Douglas, except Lawrence.....	14	7	5	9	5	1	7	9	6	11	7	8	89
Edwards.....	24	14	21	12	15	19	10	13	16	12	12	33	201
Elk.....	6	7	4	4	4	3	8	3	4	1	8	8	60
Ellis.....	8	8	6	12	12	8	4	6	6	6	5	14	95
Ellsworth.....	18	13	8	6	3	8	4	9	15	12	10	12	118
Finney.....	9	12	13	8	4	9	14	13	4	9	9	5	109
Ford.....	6	9	4	3	10	3	2	10	9	2	7	6	71
Franklin.....	17	15	14	11	13	6	13	10	8	12	15	10	144
Franklin.....	36	31	23	24	16	19	16	20	17	24	20	31	277
Geary.....	14	3	11	13	7	7	8	6	4	5	8	13	99
Gove.....	2	3	5	3	3	2	1	4	3	3	2	3	34
Graham.....	2	3	8	10	5	7	8	4	12	4	2	8	73
Grant.....	2	0	1	2	1	0	1	1	0	1	1	0	10
Gray.....	1	4	2	0	3	2	0	2	1	0	1	4	20
Greeley.....	0	0	0	0	0	0	1	1	0	0	0	0	2
Greenwood.....	13	7	13	10	18	16	11	9	8	9	10	9	133

TABLE No. 3—CONCLUDED.

COUNTIES.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Hamilton.....	2	1	2	4	3	2	2	2	2	3	0	3	26
Harper.....	8	13	15	9	3	11	11	7	11	10	11	15	124
Harvey.....	19	18	18	16	15	17	19	16	20	15	19	27	219
Haskell.....	1	2	1	3	0	0	0	1	0	0	2	0	12
Hodgeman.....	3	5	2	1	0	2	0	4	1	1	2	1	22
Jackson.....	12	16	18	17	15	5	19	5	9	25	9	21	171
Jefferson.....	24	16	18	19	10	12	15	19	14	18	11	14	185
Jewell.....	17	7	7	10	9	10	11	7	14	10	14	16	132
Johnson.....	16	18	21	22	22	11	15	15	12	10	11	23	197
Kearny.....	3	3	2	2	0	3	2	2	1	2	0	2	22
Kingman.....	14	6	11	6	4	16	4	16	7	7	6	6	103
Kiowa.....	5	6	10	9	2	9	3	6	6	6	2	2	66
Labette, except Parsons.....	23	11	13	20	19	14	13	20	24	17	23	15	217
Lane.....	16	11	31	25	16	14	13	15	12	11	15	16	195
Leavenworth, except Leavenworth city.....	0	2	1	2	2	3	3	0	1	3	1	2	20
Lincoln.....	9	16	13	19	16	16	15	19	15	18	15	31	207
Linn.....	26	18	34	17	21	23	17	19	18	19	30	36	278
Logan.....	5	8	8	16	6	8	9	6	10	3	8	10	72
Logan.....	14	13	15	16	11	8	5	12	8	9	15	25	153
Lyon.....	2	3	3	3	1	3	3	5	1	2	2	2	30
McPherson.....	19	37	34	31	31	15	21	23	12	28	14	27	292
Marion.....	18	18	20	18	23	20	23	17	13	19	17	19	225
Marshall.....	24	19	14	19	10	22	16	11	18	13	15	24	205
Meade.....	17	17	22	14	19	15	11	13	15	14	9	24	190
Miami.....	2	2	3	1	3	5	5	1	1	5	3	8	39
Mitchell.....	29	15	36	32	26	22	23	26	30	46	21	28	338
Montgomery, except Codleyville.....	14	13	16	17	18	13	6	8	8	3	7	15	143
Independence.....	24	11	30	20	10	14	18	13	21	11	20	42	239
Morris.....	14	15	17	23	12	14	9	12	10	10	11	13	160
Morton.....	16	9	11	20	7	11	10	9	14	13	17	26	163
Nemaha.....	8	5	14	6	6	8	7	7	12	9	8	11	101
Neosho.....	0	0	0	0	2	0	2	0	1	0	0	1	6
Ness.....	24	15	19	12	19	15	16	14	10	12	14	15	185
Norton.....	20	28	19	20	15	17	24	14	15	10	16	23	221
Osage.....	4	4	10	6	3	3	8	3	3	5	3	9	61
Osborne.....	8	7	14	12	8	6	10	9	10	5	11	10	110
Ottawa.....	20	13	18	19	20	18	22	24	14	9	14	20	211
Pawnee.....	11	10	10	9	16	8	6	5	7	15	6	18	116
Phillips.....	6	13	4	15	6	6	7	5	8	11	12	21	114
Pottawatomie.....	4	8	11	3	3	5	12	3	10	8	3	8	98
Pratt.....	9	11	6	6	7	11	12	9	7	11	6	13	108
Rawlins.....	11	12	15	13	12	24	8	10	7	13	13	7	140
.....	7	10	9	4	7	7	3	11	4	3	6	14	95
.....	3	1	3	2	5	2	3	4	5	4	3	7	42

Reno, except	13	16	14	11	6	10	8	13	11	17	7	15	141
Hutchinson	17	15	22	12	19	16	15	11	21	18	13	27	206
Republic	16	11	13	10	12	4	9	9	7	7	18	17	128
Rice	16	14	17	13	10	7	12	12	9	8	14	7	139
Riley	18	10	12	9	12	11	10	9	11	20	7	32	161
Rooks	5	5	3	3	5	7	5	9	7	7	4	7	67
Rush	8	4	5	10	9	6	5	1	2	3	4	8	60
Russell	14	7	8	12	7	12	7	8	3	8	14	13	118
Saline	20	20	27	20	22	20	17	11	16	20	24	28	245
Scott	0	2	4	0	2	1	3	0	4	0	0	1	17
Sedgwick, except	10	4	12	15	9	9	10	14	9	11	10	13	126
Wichita	72	58	65	57	74	55	63	62	54	64	59	95	778
Seward	2	3	3	1	0	1	2	3	3	6	9	7	40
Shawnee, except	31	22	45	28	18	22	20	21	21	29	19	43	314
Topeka	64	57	67	60	50	32	59	41	50	52	56	86	674
Sheridan	3	2	4	1	3	2	2	3	1	3	3	3	30
Sherman	2	3	4	3	2	1	5	2	1	3	3	3	32
Smith	11	13	15	12	14	6	4	8	12	7	6	18	126
Stafford	16	9	6	12	9	4	9	11	9	12	6	11	114
Stanton	0	0	0	0	0	1	0	0	0	0	1	0	2
Stevens	3	2	0	2	4	3	0	1	1	0	0	0	16
Sumner	21	24	22	23	26	17	29	21	15	22	29	34	233
Thomas	2	1	3	2	4	3	4	2	2	6	1	7	38
Trego	2	4	5	2	1	2	1	2	3	1	2	3	32
Wabaunsee	12	8	14	13	6	3	3	2	8	11	6	15	105
Wallace	0	3	5	2	2	1	0	3	0	0	3	0	19
Washington	12	12	15	9	7	12	10	11	13	14	14	13	142
Wichita	1	0	3	0	2	4	1	1	2	0	1	0	15
Wilson	13	20	12	11	14	8	12	29	9	19	20	24	196
Woodson	8	8	7	2	7	1	3	5	5	13	7	25	90
Wyandotte, except	20	20	22	15	30	13	13	21	16	20	22	45	253
Kansas City	132	101	119	112	109	99	104	106	94	98	114	156	1,344

TABLE No. 4. Showing the deaths by counties, by ages and sex, 1914.

COUNTIES.	Under 1 year.		1 to 2 years.		3 to 4 years.		Under 5 years.		5 to 9 years.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Allen.....	23	11	7	7	4	3			2	6
Anderson.....	10	7	2	1	1	0			2	1
Atchison, <i>except</i>	7	6	3	3		2			1	
Atchison city.....	10	9	2	1	1	1			3	3
Barber.....	15	2	5	2					1	2
Barton.....	20	17	10	7	1	2			5	2
Bourbon, <i>except</i>	9	7	3	4					1	
Fort Scott.....	13	10	4	1	2	1			3	2
Brown.....	26	12	11	8	2	5			1	
Butler.....	19	20	4	5					1	3
Chase.....	5	4	1	1	1				3	1
Chautauqua.....	8	5	6	4	1	1			3	2
Cherokee.....	57	35	24	13	4	5			6	8
Cheyenne.....	3	4	1			1				
Clark.....	5	5	1	1						
Clay.....	10	14	1	4	2					1
Cloud.....	21	12	12	4	2	2				3
Coffey.....	12	5	3	2	1				1	1
Comanche.....	3	4	1	2	1					
Cowley.....	26	22	8	5	3	1			6	
Crawford, <i>except</i>	42	47	11	12	6	7			2	6
Pittsburg.....	30	17	8	2	2	1			2	
Decatur.....	2	3	2	2	1					
Dickinson.....	19	12	2	8	1	2			3	1
Doniphan.....	15	11	3	6	2	1			1	2
Douglas, <i>except</i>	7	5		2		1				
Lawrence.....	13	5	5	3	1	1			2	3
Edwards.....	11	5		5	1					1
Elk.....	6	4	6						1	
Ellis.....	20	10	5	2	1	4			3	4
Ellsworth.....	6	6	2	5					3	
Finney.....	8	3		2					3	
Ford.....	12	13	9	5	2	3			1	1
Franklin.....	12	17	7	4	1	1			1	1
Geary.....	3	8	3	1						2
Gove.....	3	3	1							
Graham.....	8	9	6	1	1					1
Grant.....	1		1							
Gray.....	3	4		1	1					1
Greeley.....		1				1				
Greenwood.....	6	6	3	3	1	1			1	1
Hamilton.....	2	1	2						1	2
Harper.....	9	6	2	3		1			4	1
Harvey.....	22	8	5	5	1	1			5	5
Haskell.....	1	4								
Hodgeman.....	3	3	1		1					
Jackson.....	17	12	4			1			2	1
Jefferson.....	12	13	6	1		2				
Jewell.....	15	11	5	5	2				4	2
Johnson.....	12	4	3	2		2			2	1
Kearny.....	2	1		1	1					
Kingman.....	13	8	5	7	2				1	1
Kiowa.....	5	7		4						
Labette, <i>except</i>	15	5	8	5	3	1			4	3
Parsons.....	15	11	2	1		2			4	2
Lane.....	1			1						
Leavenworth, <i>except</i>	14	9	1	4		2				2
Leavenworth city.....	22	19	7	6	3	3			3	2
Lincoln.....	9	10	3	2		1			1	
Linn.....	8	5	3	2	1	1			1	3
Logan.....	1		1	1	1					1
Lyon.....	13	12	5	4	2					2
Marion.....	19	27	4	5	3				3	1
Marshall.....	26	18	4	3		4			1	1
McPherson.....	13	12	3	3	1				1	2
Meade.....	3	3	2	2					1	
Miami.....	10	6	1	2		2			2	2
Mitchell.....	6	7	3	5	1					
Montgomery, <i>except</i>	23	12	11	6	2	2			4	4
Coffeyville.....	16	23	11	4	2	1			4	1
Independence.....	19	10	9	3	1	2				1
Morris.....	7	8		2	2				1	3

TABLE No. 4—CONTINUED.

COUNTIES.	Under 1 year.		1 to 2 years.		3 to 4 years.		Under 5 years.		5 to 9 years.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Morton.....			2							
Nemaha.....	14	15	8	5	1				3	4
Neosho.....	15	19	4	9	1	2			1	4
Ness.....	2	5	1	1	1					
Norton.....	9	4	2	2					1	1
Osage.....	11	8	3	6		3			2	1
Osborne.....	8	8	3	2	4					
Ottawa.....	10	4		1	1	1				
Pawnee.....	13	5	1	1		1				1
Phillips.....	5	5		3						1
Pottawatomie.....	14	8	5	2	1	1			3	2
Pratt.....	12	10	5	2	1				2	2
Rawlins.....	5	8	2		2	1			1	
Reno, <i>except</i>	16	17	3	7	4	2			1	
Hutchinson.....	23	10	3	6	1	1			2	2
Republic.....	10	7	3	5		1				1
Rice.....	12	12	5	6		1			3	1
Riley.....	9	10	3	1	2	2			1	3
Rooks.....	6	11	3	1	1	1			1	1
Rush.....	9	4	3	5		2			2	1
• Russell.....	16	9	2	1	1					
Saline.....	12	5		1	3	4			2	1
Scott.....		3		1					1	
Sedgwick, <i>except</i>	18	16	4	5					2	2
Wichita.....	52	36	8	5	6				7	7
Seward.....	5	5	2							1
Shawnee, <i>except</i>	6	11	2	4	1	1				
Topeka.....	49	39	16	11	5	3			6	3
Sheridan.....	4	1	1							
Sherman.....	2	1	2	2					1	
Smith.....	12	16	6	4	4	2			1	3
Stafford.....	9	10	2		1	2			2	
Stanton.....										
Stevens.....	3	2	1		1					
Sumner.....	37	19	2	6	6	4			3	4
Thomas.....	2	1		1	1	1			1	
Trego.....	4	2	1						3	1
Wabaunsee.....	10	4	1	2	1				1	
Wallace.....			2	2						
Washington.....	18	9		5	3	6				
Wichita.....										
Wilson.....	21	19	6	3	1	5			3	2
Woodson.....	4	6	1	4		1			2	2
Wyandotte, <i>except</i>	14	12	4	7	1	1			1	4
Kansas City.....	103	89	24	22	9	17			9	19

TABLE No. 4—CONTINUED.

COUNTIES.	10 to 14 years.		15 to 19 years.		20 to 24 years.		25 to 29 years.		30 to 34 years.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Allen.....	2	3	2	6	3	7	4	4	4	1
Anderson.....	1	1	1	.....	1	5	1	.....	.....	1
Atchison, <i>except</i>	2	1	4	1	4	.....	3	.....	1	2
Atchison city.....	3	1	3	.....	4	2	3	7	4	4
Barber.....	.....	.....	.....	2	.....	.....	2	1	1	.....
Barton.....	3	1	5	3	5	6	3	2	3	3
Bourbon, <i>except</i>	1	2	.....	4	1	1	1	1	.....	1
Fort Scott.....	2	2	3	1	3	5	5	4	.....	2
Brown.....	2	2	2	3	7	6	2	3	2	1
Butler.....	1	2	2	5	1	3	1	2	2	3
Chase.....	1	1	2	1	2	.....	4	1	1	1
Chautauqua.....	1	.....	.....	2	.....	1	.....	1	.....	1
Cherokee.....	7	7	7	10	8	8	5	5	8	7
Cheyenne.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....
Clark.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clay.....	.....	1	1	2	2	2	1	2	1	3
Cloud.....	1	1	3	.....	1	.....	2	5	1	5
Coffey.....	2	1	.....	1	1	3	3	1	1	2
Comanche.....	.....	.....	.....	.....	.....	.....	2	1	1	.....
Cowley.....	4	2	11	7	10	10	4	9	6	8
Crawford, <i>except</i>	4	1	7	2	8	6	16	7	11	6
Pittsburg.....	1	1	6	2	7	4	10	5	10	13
Decatur.....	.....	1	.....	.....	.....	.....	2	1	1	1
Dickinson.....	2	4	6	1	1	2	4	4	5	3
Doniphan.....	1	.....	1	1	5	1	2	1	1	4
Douglas, <i>except</i>	1	.....	1	.....	.....	1	.....	.....	1	2
Lawrence.....	2	1	.....	3	3	4	3	1	2	1
Edwards.....	1	1	1	1	1	.....	.....	.....	3	2
Elk.....	1	1	2	1	1	.....	2	2	.....	3
Ellis.....	2	3	2	1	3	2	2	1	.....	2
Ellsworth.....	.....	2	.....	.....	4	.....	2	2	3	2
Finney.....	1	1	1	2	4	.....	1	1	.....	1
Ford.....	.....	3	2	4	4	1	2	2	3	2
Franklin.....	2	2	2	3	6	2	10	1	4	3
Geary.....	1	2	1	2	.....	.....	1	1	3	2
Gove.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....
Graham.....	.....	.....	1	.....	.....	1	.....	1	.....	.....
Grant.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gray.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....
Greeley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenwood.....	2	.....	1	2	.....	1	2	.....	1	5
Hamilton.....	.....	.....	.....	1	.....	.....	.....	1	3	.....
Harper.....	1	2	1	.....	1	1	3	1	2	1
Harvey.....	1	2	.....	2	4	.....	2	6	7	1
Haskell.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Hodgeman.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jackson.....	.....	.....	2	.....	5	1	2	.....	1	3
Jefferson.....	2	.....	2	3	.....	.....	2	.....	3	.....
Jewell.....	.....	1	2	1	4	3	2	2	2	.....
Johnson.....	1	.....	7	2	1	5	3	.....	7	.....
Kearny.....	.....	.....	1	.....	.....	.....	.....	.....	2	.....
Kingman.....	1	2	1	.....	4	.....	2	2	1	2
Kiowa.....	1	1	1	.....	2	2	1	1	1	1
Labette, <i>except</i>	5	3	3	1	1	2	2	3	3	4
Parsons.....	1	1	7	4	3	4	7	6	5	2
Lane.....	.....	2	.....	1	.....	1	.....	1	.....	.....
Leavenworth, <i>except</i>	1	1	1	.....	5	1	2	3	3	1
Leavenworth city.....	3	2	1	1	4	6	6	5	4	8
Lincoln.....	1	.....	.....	1	.....	1	.....	.....	.....	1
Linn.....	1	2	1	2	2	3	1	4	2	4
Logan.....	.....	1	2	.....	2	1	.....	.....	.....	.....
Lyon.....	.....	1	1	2	2	4	4	3	2	4
Marion.....	1	2	4	1	6	2	1	1	3	3
Marshall.....	1	1	3	2	3	2	5	2	3	.....
McPherson.....	2	1	1	1	3	3	3	1	2	3
Meade.....	1	1	1	.....	2	.....	.....	1	1	1
Miami.....	3	2	1	1	3	3	7	1	10	7
Mitchell.....	2	.....	.....	2	1	.....	3	4	1	1
Montgomery, <i>except</i>	5	2	2	4	9	4	3	4	4	4
Coffeyville.....	2	.....	5	2	3	3	3	4	1	4
Independence.....	1	.....	.....	1	3	3	2	3	2	3
Morris.....	1	1	.....	.....	3	2	2	.....	1	.....
Morton.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....

TABLE No. 4—CONTINUED.

COUNTIES.	10 to 14 years.		15 to 19 years.		20 to 24 years.		25 to 29 years.		30 to 34 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Nemaha.....	2	1	1	1	.....	1	3	1	2	4
Neosho.....	3	3	3	3	1	6	4	3	3	3
Ness.....	.....	1	.....	1	.....	1	.....	.....	.....	.....
Norton.....	1	1	.....	2	1	1	.....	2	2	2
Osage.....	.....	.....	1	2	1	2	2	6	3	1
Osborne.....	1	2	.....	1	.....	.....	2	2	1	3
Ottawa.....	1	1	.....	2	1	4	.....	1	.....	4
Pawnee.....	3	1	3	.....	3	2	1	1	.....	3
Phillips.....	2	2	1	2	3	2	1	2	.....	1
Pottawatomie.....	1	1	5	2	1	.....	1	1	2	.....
Pratt.....	3	1	1	2	2	3	1	6	1	1
Rawlins.....	1	.....	1	1	3	1	1	.....	.....	1
Reno, except.....	2	1	.....	1	1	1	.....	.....	5	2
Hutchinson.....	2	3	3	2	5	3	4	1	5	4
Republic.....	1	.....	.....	1	4	2	1	4	1	1
Rice.....	1	1	3	1	3	2	5	.....	2	.....
Riley.....	1	.....	1	.....	2	1	.....	2	2	2
Rooks.....	.....	.....	1	2	2	3	.....	.....	2	2
Rush.....	2	.....	.....	1	.....	.....	2	1	1	.....
Russell.....	.....	.....	.....	.....	.....	1	1	3	4	2
Saline.....	4	2	1	4	5	2	3	6	3	4
Scott.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....
Sedgwick, except.....	4	1	2	.....	1	1	2	2	2	.....
Wichita.....	5	6	9	5	12	14	15	10	17	13
Seward.....	.....	.....	.....	1	1	2	.....	1	.....	.....
Shawnee, except.....	.....	.....	1	2	2	2	2	2	2	1
Topeka.....	2	2	5	3	12	15	13	8	13	12
Sheridan.....	1	1	.....	.....	1	1	1	.....	1	.....
Sherman.....	.....	1	.....	.....	1	.....	.....	.....	1	.....
Smith.....	2	.....	1	1	2	2	1	1	1	.....
Stafford.....	1	1	1	4	1	1	.....	3	2	5
Stanton.....	.....	.....	.....	1	.....	1	1	.....	.....	.....
Stevens.....	.....	.....	.....	.....	.....	1	2	.....	1	.....
Sumner.....	1	2	2	4	5	5	4	1	5	4
Thomas.....	.....	1	2	.....	3	.....	.....	.....	.....	.....
Trego.....	.....	.....	.....	1	.....	1	.....	.....	2	.....
Wabaunsee.....	.....	2	.....	3	4	.....	3	1	.....	1
Wallace.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington.....	3	.....	.....	3	1	1	4	1	2	1
Wichita.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Wilson.....	.....	.....	.....	7	6	4	5	1	3	2
Woodson.....	1	.....	1	.....	2	1	1	1	3	.....
Wyandotte, except.....	3	1	2	2	3	4	4	5	5	11
Kansas City.....	7	11	25	16	32	32	48	28	38	36

TABLE No. 4—CONTINUED.

COUNTIES.	35 to 39 years.		40 to 44 years.		45 to 49 years.		50 to 59 years.		60 to 69 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Allen.....	5	6	6	4	6	7	15	12	22	14
Anderson.....	3	1	3	.....	.....	4	1	5	15	10
Atchison, except.....	1	1	1	2	.....	2	5	3	7	7
Atchison city.....	4	4	3	5	7	3	17	8	16	15
Barber.....	2	2	.....	2	2	.....	5	4	5	3
Barton.....	6	6	1	3	4	4	8	5	13	8
Bourbon, except.....	.....	1	2	.....	1	1	2	4	4	8
Fort Scott.....	6	6	3	2	2	2	13	11	16	14
Brown.....	.....	4	4	.....	3	6	16	3	16	9
Butler.....	2	4	2	3	5	1	10	11	19	8
Chase.....	1	1	2	.....	1	2	8	1	8	4
Chautauqua.....	2	2	3	2	3	2	2	3	7	4
Cherokee.....	13	10	8	8	17	7	29	16	37	37
Cheyenne.....	1	.....	1	.....	.....	.....	.....	1	1	.....
Clark.....	1	2	.....	.....	1	.....	2	.....	1	.....
Clay.....	2	2	5	1	3	3	4	7	7	7
Cloud.....	1	3	3	2	3	5	18	5	13	5
Coffey.....	2	5	3	2	2	1	8	6	12	9
Comanche.....	1	3	1	1	.....	.....	4	1	1	3
Cowley.....	3	4	4	9	5	5	20	15	42	18
Crawford, except.....	11	9	7	5	6	6	14	14	32	22
Pittsburg.....	6	7	12	6	5	7	18	9	17	10
Decatur.....	.....	1	.....	.....	2	.....	5	4	6	3
Dickinson.....	2	1	5	4	7	2	8	8	13	8
Doniphan.....	3	.....	4	5	3	1	7	3	12	6
Douglas, except.....	.....	.....	1	2	1	1	8	5	6	8
Lawrence.....	2	3	3	1	4	6	9	10	14	20
Edwards.....	1	2	.....	1	5	1	1	4	4	.....
Elk.....	.....	3	1	.....	.....	.....	4	3	8	6
Ellis.....	2	1	3	3	.....	3	4	5	8	5
Ellsworth.....	.....	1	1	1	3	1	6	8	5	10
Finney.....	.....	.....	.....	.....	1	.....	8	4	2	1
Ford.....	2	.....	3	1	5	2	7	5	18	5
Franklin.....	5	4	4	7	2	1	13	9	20	21
Geary.....	1	1	1	2	4	1	4	4	10	12
Gove.....	.....	3	.....	.....	.....	.....	3	8	3	2
Graham.....	.....	.....	1	.....	.....	2	.....	5	5	1
Grant.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
Gray.....	.....	.....	.....	.....	.....	1	2	1	.....	.....
Greeley.....	.....	.....	1	.....	.....	.....	.....	1	.....	1
Greenwood.....	8	2	2	4	.....	1	7	8	18	3
Hamilton.....	.....	1	2	.....	.....	.....	3	.....	.....	.....
Harper.....	1	1	.....	4	2	1	8	3	16	8
Harvey.....	8	6	1	6	2	2	14	11	20	19
Haskell.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
Hodgeman.....	.....	.....	.....	.....	.....	2	1	1	3	.....
Jackson.....	1	2	4	3	2	.....	11	6	18	11
Jefferson.....	.....	3	4	5	2	2	6	6	8	11
Jewell.....	1	.....	.....	1	4	.....	4	7	12	15
Johnson.....	4	4	4	1	1	6	15	8	23	12
Kearny.....	2	1	.....	.....	1	.....	2	.....	1	1
Kingman.....	1	.....	1	3	3	2	3	3	12	3
Kiowa.....	.....	2	.....	1	.....	.....	3	3	1	2
Labette, except.....	2	.....	5	2	2	4	9	6	16	3
Parsons.....	4	8	6	4	4	4	15	8	8	12
Lane.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2
Leavenworth, except.....	1	2	6	1	5	1	9	9	21	6
Leavenworth city.....	6	7	10	6	4	7	18	12	27	19
Lincoln.....	.....	1	1	.....	.....	1	2	3	5	5
Linn.....	.....	4	1	2	2	3	6	7	10	11
Logan.....	.....	.....	.....	.....	.....	.....	2	1	.....	.....
Lyon.....	2	2	2	2	1	2	20	14	19	21
Marion.....	2	3	.....	1	1	1	5	7	14	11
Marshall.....	1	1	4	2	4	5	7	6	11	20
McPherson.....	3	3	4	3	1	2	11	7	15	13
Meade.....	.....	1	1	1	.....	1	2	.....	.....	1
Miami.....	11	11	7	6	5	9	37	23	26	25
Mitchell.....	4	1	2	1	2	2	4	4	15	8
Montgomery, except.....	1	1	5	1	2	4	7	9	24	14
Colleyville.....	3	7	1	3	8	5	9	4	18	14
Independence.....	8	4	3	2	2	4	8	9	10	10
Morris.....	.....	1	1	1	.....	1	7	3	9	6
Morton.....	1	.....	.....	.....	.....	1	1	.....	.....	.....

TABLE No. 4—CONTINUED.

COUNTIES.	35 to 39 years.		40 to 44 years.		45 to 49 years.		50 to 59 years.		60 to 69 years.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Nemaha.....	4	1	2	3	4	2	13	10	10	8
Neosho.....	7	3	6	3	4	6	13	7	19	20
Ness.....							6	2		4
Norton.....	2	3	1	1	2	1	4	10	8	5
Osage.....	2	1	2	2	2	3	13	3	27	12
Osborne.....	1	3	1	1	1	1	5	4	17	6
Ottawa.....						2	9	3	9	7
Pawnee.....	4	3		1	4	1	5	3	5	6
Phillips.....	1	1	1	1	2	1	2	3	13	6
Pottawatomie.....			2	1	2	2	9	9	2	6
Pratt.....	5	1	1	2			3	4	4	7
Rawlins.....	1	1	2	2		1	3	1	2	4
Reno, <i>except</i>	3	3	3	1	2	6	10	10	14	9
Hutchinson.....	6	7	10	10	4	2	11	11	17	12
Republic.....	3	5	2	4	1	2	10	6	10	10
Rice.....	2	1	1		1	2	2	2	11	13
Riley.....	1	2	6		2	1	5	3	17	9
Rooks.....		1	1		1	1	6	4	12	7
Rush.....		1		2			1		1	3
Russell.....	1		1	1	1	3	6	6	5	6
Saline.....	1		3	1	2	3	8	2	14	11
Scott.....							1		1	
Sedgwick, <i>except</i>		1	3	2		1	3	3	13	11
Wichita.....	11	15	10	17	16	16	50	33	59	45
Seward.....			3				2		2	
Shawnee, <i>except</i>	3	2	5		4	2	7	3	11	2
Topeka.....	29	21	21	23	28	20	62	37	82	60
Sheridan.....		1	1				2	1	6	1
Sherman.....		2	2	1	2	1	2	1	3	2
Smith.....	2	1		4	2	2	4	5	8	13
Stafford.....	2	4		2		2	7	3	6	6
Stanton.....							1		1	
Stevens.....	1							1	2	1
Sumner.....		7	1	3	7	4	13	11	30	21
Thomas.....			1	1	2		2	1	3	1
Trego.....		1	1			1	1	1	4	2
Wabaunsee.....	1		2	1	1	6	9	4	8	4
Wallace.....	1						2	1	1	
Washington.....	1	5	1	1	1	1	7	7	14	9
Wichita.....							2	1		
Wilson.....	3	3	6	4	7		3	11	16	13
Woodson.....	2	1		1	2	1	9	5	7	3
Wyandotte, <i>except</i>	10	7	4	5	8	5	17	13	21	14
Kansas City.....	38	30	35	27	47	14	104	54	75	53

TABLE No. 4—CONTINUED.

COUNTIES.	70 to 79 years.		80 to 89 years.		90 to 99 years.		100 years and above.		Unknown ages.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Allen.....	19	19	17	19	5	1				
Anderson.....	18	6	11	6						
Atchison, <i>except</i>	15	6	9	5		1				
Atchison city.....	17	18	7	8	8	2				
Barber.....	12	8	9	1		2				
Barton.....	14	9	7	5	2				1	
Bourbon, <i>except</i>	8	12	6	6	3	2		1		
Fort Scott.....	12	14	5	7	1	1				
Brown.....	17	12	8	6	3					
Butler.....	16	18	11	10		3				
Chase.....	7	4	2	1						
Chautauqua.....	14	5	4	2		1				
Cherokee.....	43	28	15	12		2		1		
Cheyenne.....		2		6						
Clark.....	5	2	1		1					
Clay.....	16	11	11	3	2	1				
Cloud.....	13	14	11	6	2	1				
Coffey.....	15	12	13	8	2	1				
Comanche.....	2	3	1			1				
Cowley.....	38	37	24	23	2	4				
Crawford, <i>except</i>	40	22	9	12	1	1				
Pittsburg.....	12	8	4	7				1		
Decatur.....	7	3	1	2	1					
Dickinson.....	24	20	10	9	1	2				
Doniphan.....	15	16	10	9	5	2				
Douglas, <i>except</i>	10	11	11	10	1	2				
Lawrence.....	20	13	13	16	1	2				
Edwards.....	3	3	2							
Elk.....	10	8	7	4	1					
Ellis.....	8	7	1	1		1				
Ellsworth.....	9	9	8	7		1	1			
Finney.....	4	4	1	1						
Ford.....	29	4	9	1	2					
Franklin.....	23	19	14	11	1	1				
Geary.....	18	9	6	2	2	1				
Gove.....	4	4	2	1						
Graham.....	7	2	1	6			1			
Grant.....			1							
Gray.....	2		1	1						
Greeley.....	1									
Greenwood.....	17	14	4	7	1	2		1		
Hamilton.....	2	1	1		1					
Harper.....	13	11	11	5	1	3				
Harvey.....	28	10	13	15	1	3				
Haskell.....	1			1						
Hodgeman.....	3			1						
Jackson.....	16	7	9	8	3	1				
Jefferson.....	15	14	5	6		2				
Jewell.....	16	8	13	7	1	1				
Johnson.....	19	19	18	17	2					
Kearny.....	2									
Kingman.....	7	7	7	2	1					
Kiowa.....	3	4	4							
Labette, <i>except</i>	17	8	12	10	3					
Parsons.....	9	17	8	4	1				1	
Lane.....	1	1	2							
Leavenworth, <i>except</i> ...	33	14	17	8	1					
Leavenworth city...	33	26	23	16		2				
Lincoln.....	12	8	5	7		1				
Linn.....	25	13	9	9		3				
Logan.....	3	1	2	1						
Lyon.....	24	17	20	17	2	3				
Marion.....	15	19	9	14		1				
Marshall.....	30	19	16	12	2					
McPherson.....	32	22	17	9	2	6				
Meade.....	1	4		1			1			
Miami.....	31	24	13	14	2	2				
Mitchell.....	16	10	9	8	1	1		1		
Montgomery, <i>except</i> ...	29	18	14	7	1	1				
Coffeyville.....	14	4	5	9	1					
Independence.....	15	5	2	5						
Morris.....	15	9	8	5	3	2				
Morton.....										

TABLE No. 4—CONCLUDED.

COUNTIES.	70 to 79 years.		80 to 89 years.		90 to 99 years.		100 years and above.		Unknown ages.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Nemaha.....	13	10	10	11	1	1	.....	.....	2	1
Neosho.....	24	22	15	14	.....	1	.....	.....	1	.....
Ness.....	4	6	.....	2	.....	.....	.....	.....	.....	.....
Norton.....	10	9	8	6	1	.....	.....	.....	.....	.....
Osage.....	25	18	15	11	.....	3	.....	.....	1	.....
Osborne.....	16	10	3	5	1	1	.....	.....	.....	.....
Ottawa.....	11	15	5	8	3	2	.....	.....	.....	.....
Pawnee.....	8	5	2	4	1	.....	.....	.....	.....	.....
Phillips.....	10	9	9	5	1	1	.....	.....	.....	.....
Pottawatomie.....	21	22	24	9	2	.....	1	.....	.....	.....
Pratt.....	4	7	5	3	1	3	.....	.....	.....	.....
Rawlins.....	5	5	3	4	.....	.....	.....	.....	.....	.....
Reno, <i>except</i>	22	18	12	6	.....	2	.....	.....	.....	.....
Hutchinson.....	17	12	5	6	.....	2	1	.....	.....	.....
Republic.....	15	22	11	10	1	.....	.....	.....	.....	.....
Rice.....	14	9	14	5	2	.....	.....	.....	.....	.....
Riley.....	18	9	8	12	2	1	.....	.....	.....	.....
Rooks.....	9	9	5	3	2	.....	.....	.....	.....	.....
Rush.....	3	4	7	2	.....	.....	.....	.....	.....	.....
Russell.....	11	2	3	2	.....	.....	.....	.....	.....	.....
Saline.....	19	10	17	9	.....	.....	.....	.....	.....	.....
Scott.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....
Sedgwick, <i>except</i>	12	7	5	7	1	.....	.....	.....	.....	.....
Wichita.....	58	30	30	24	4	3	1	.....	.....	.....
Seward.....	2	.....	.....	1	1	.....	.....	.....	.....	.....
Shawnee, <i>except</i>	20	10	16	9	3	.....	.....	.....	.....	.....
Topeka.....	76	48	40	43	3	3	.....	1	.....	.....
Sheridan.....	4	1	.....	1	.....	.....	.....	.....	.....	.....
Sherman.....	2	2	5	1	1	.....	.....	.....	.....	.....
Smith.....	16	10	9	6	.....	.....	.....	.....	.....	.....
Stafford.....	11	11	5	4	.....	.....	.....	.....	.....	.....
Stanton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stevens.....	3	2	.....	.....	.....	.....	.....	.....	.....	.....
Sumner.....	25	28	21	11	1	2	.....	.....	.....	.....
Thomas.....	3	2	3	3	.....	.....	.....	.....	.....	.....
Trego.....	3	1	1	1	.....	.....	.....	.....	.....	.....
Wabaunsee.....	10	8	8	7	.....	.....	.....	.....	.....	.....
Wallace.....	1	1	.....	1	.....	.....	.....	.....	.....	.....
Washington.....	23	21	8	6	.....	.....	.....	.....	.....	.....
Wichita.....	1	1	1	1	.....	.....	.....	.....	.....	.....
Wilson.....	14	16	9	9	.....	2	.....	.....	.....	.....
Woodson.....	7	8	5	5	.....	.....	.....	.....	.....	.....
Wyandotte, <i>except</i>	24	6	6	11	5	2	.....	.....	.....	.....
Kansas City.....	56	60	59	26	2	5	.....	1	.....	.....

TABLE No. 5. Showing the deaths by counties, by ages and sex, 1915.

COUNTIES.	Under 1 year.		1 to 2 years.		3 to 4 years.		Under 5 years.		5 to 9 years.	
	Male.	Fe-male.	Male.	Fe-male.	Male.	Fe-male.	Male.	Fe-male.	Male.	Fe-male.
Allen.....	20	4	9	4	2	5	31	18	3	4
Anderson.....	9	6	4	3	1	.....	14	9	3	.....
Atchison, <i>except</i>	7	4	1	2	.....	.....	8	6	2	.....
Atchison city.....	10	6	5	4	.....	.....	15	10	3	2
Barber.....	6	12	1	.....	3	4	10	16	2	1
Barton.....	23	13	5	5	3	2	31	20	3	3
Bourbon, <i>except</i>	8	7	3	1	1	1	12	9	1	1
Fort Scott.....	12	13	4	2	.....	1	16	16	4	.....
Brown.....	14	11	6	6	3	2	23	19	3	3
Butler.....	14	6	4	3	1	4	19	18	3	2
Chase.....	8	5	3	4	1	2	12	11	.....	.....
Chautauqua.....	16	6	3	1	1	2	20	9	.....	1
Cherokee.....	41	30	10	15	8	5	59	50	6	5
Cheyenne.....	5	1	1	.....	.....	.....	6	1	.....	.....
Clark.....	5	1	1	1	.....	2	6	4	.....	.....
Clay.....	10	7	2	4	1	.....	13	11	1	.....
Cloud.....	16	9	5	1	1	1	22	11	4	2
Coffey.....	7	7	.....	1	2	2	9	10	1	1
Comanche.....	5	2	3	2	.....	.....	8	4	.....	.....
Cowley.....	15	12	13	7	3	4	31	23	4	4
Crawford, <i>except</i>	61	36	15	17	3	5	79	58	6	10
Pittsburg.....	16	8	4	9	4	3	24	20	4	2
Decatur.....	5	3	2	.....	.....	1	7	4	1	.....
Dickinson.....	14	17	.....	5	3	1	17	23	2	1
Doniphan.....	12	12	5	5	3	1	20	18	.....	3
Douglas, <i>except</i>	4	4	1	3	.....	1	5	8	1	.....
Lawrence.....	10	8	3	4	.....	1	13	13	1	1
Edwards.....	12	2	1	3	1	1	14	6	1	.....
Elk.....	9	5	.....	2	1	.....	10	7	2	2
Ellis.....	21	22	6	.....	3	.....	30	22	2	1
Ellsworth.....	15	5	5	2	.....	.....	20	7	2	.....
Finney.....	10	7	1	.....	1	2	12	9	1	.....
Ford.....	16	10	6	1	1	.....	23	11	.....	2
Franklin.....	20	12	3	5	3	1	26	18	2	1
Geary.....	5	1	1	4	1	1	7	6	1	.....
Gove.....	6	3	2	.....	1	.....	9	3	.....	.....
Graham.....	10	8	1	3	1	1	12	12	1	.....
Grant.....	1	3	.....	.....	.....	.....	1	3	.....	.....
Gray.....	3	4	.....	2	.....	.....	3	6	.....	.....
Greeley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Greenwood.....	20	6	5	2	1	.....	26	8	3	2
Hamilton.....	5	3	2	.....	.....	.....	7	3	.....	.....
Harper.....	14	12	4	3	1	.....	19	15	1	.....
Harvey.....	22	7	4	.....	2	3	28	10	3	.....
Haskell.....	2	3	.....	.....	.....	.....	2	3	.....	.....
Hodgeman.....	3	4	.....	.....	1	.....	4	4	2	.....
Jackson.....	10	11	5	2	1	2	16	15	.....	3
Jefferson.....	14	4	2	6	1	2	17	12	1	2
Jewell.....	6	8	1	1	.....	.....	7	9	1	3
Johnson.....	11	12	5	4	.....	.....	16	16	.....	1
Kearny.....	2	1	1	.....	1	.....	4	1	.....	.....
Kingman.....	11	11	5	2	.....	3	16	16	3	2
Kiowa.....	11	7	3	.....	.....	.....	14	7	.....	2
Labette, <i>except</i>	6	10	3	3	2	.....	11	13	5	2
Parsons.....	10	8	2	.....	2	1	14	9	.....	2
Lane.....	3	1	1	.....	2	.....	6	1	.....	1
Leavenworth, <i>except</i>	6	6	1	3	1	1	8	10	.....	1
Leavenworth city.....	15	11	2	2	1	2	18	15	3	2
Lincoln.....	11	.....	2	2	.....	.....	13	2	.....	.....
Linn.....	11	7	4	5	1	1	16	13	2	.....
Logan.....	2	4	1	.....	.....	.....	3	4	1	1
Lyon.....	21	17	5	5	5	2	31	24	3	4
Marion.....	19	21	5	7	3	1	27	29	3	5
Marshall.....	22	15	3	3	1	1	26	19	1	.....
McPherson.....	15	18	4	5	.....	3	19	26	2	1
Meade.....	6	2	1	2	.....	.....	7	4	.....	3
Miami.....	14	10	4	3	2	1	20	14	1	1
Mitchell.....	16	8	4	3	1	.....	21	11	.....	.....
Montgomery, <i>except</i>	23	14	6	9	.....	2	29	25	4	2
Coffeyville.....	11	14	4	3	.....	3	15	20	2	2
Independence.....	12	7	1	6	1	.....	14	13	2	3
Morris.....	9	7	2	.....	.....	2	11	9	1	1
Morton.....	.....	.....	1	2	.....	.....	1	2	.....	.....

TABLE No. 5—CONTINUED.

COUNTIES.	Under 1 year.		1 to 2 years.		3 to 4 years.		Under 5 years.		5 to 9 years.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Nemaha.....	18	10	5	2	1	.....	19	12	8	1
Neosho.....	18	12	7	4	.....	2	25	18	5	2
Ness.....	7	3	3	1	.....	.....	10	4	3	.....
Norton.....	9	7	3	1	.....	.....	12	8	2	4
Osage.....	16	11	6	4	.....	.....	22	15	3	.....
Osborne.....	18	7	1	2	.....	.....	14	9	1	3
Ottawa.....	12	10	2	2	1	2	15	14	2	2
Pawnee.....	12	4	1	2	.....	.....	13	6	2	.....
Phillips.....	7	7	1	2	1	1	9	10	4	2
Pottawatomie.....	18	3	2	6	1	.....	16	9	2	1
Pratt.....	10	9	8	5	1	1	19	15	.....	1
Rawlins.....	8	3	1	2	.....	.....	9	5	.....	.....
Reno, <i>except</i>	13	10	10	5	.....	2	23	17	1	3
Hutchinson.....	19	10	5	2	1	1	25	13	1	.....
Republic.....	9	8	.....	2	.....	.....	9	10	.....	2
Rice.....	12	13	5	4	1	1	18	18	2	3
Riley.....	6	8	3	.....	1	.....	10	8	.....	1
Rooks.....	7	7	1	2	2	1	10	10	3	.....
Rush.....	10	6	1	5	.....	.....	11	11	.....	.....
Russell.....	12	11	3	3	4	2	19	16	3	4
Saline.....	16	17	7	5	1	1	24	23	4	4
Scott.....	2	3	.....	2	.....	.....	4	3	.....	1
Sedgwick, <i>except</i>	11	9	4	.....	.....	1	15	10	2	1
Wichita.....	52	41	19	13	5	6	76	60	9	6
Seward.....	3	7	5	2	.....	2	8	11	2	.....
Shawnee, <i>except</i>	14	12	2	4	.....	.....	16	16	1	.....
Topeka.....	43	42	11	6	1	.....	55	48	12	9
Sheridan.....	7	4	2	1	.....	.....	9	5	1	.....
Sherman.....	1	2	1	.....	.....	.....	2	2	1	.....
Smith.....	13	14	3	1	3	.....	19	15	2	3
Stafford.....	14	9	2	1	2	1	18	11	.....	1
Stanton.....	1	1	.....	1	.....	.....	1	2	.....	.....
Stevens.....	2	3	.....	.....	.....	1	2	4	.....	.....
Sumner.....	17	20	12	12	1	1	30	33	4	1
Thomas.....	4	.....	.....	2	1	1	5	3	1	1
Trego.....	7	6	1	.....	1	.....	9	6	.....	1
Wabaunsee.....	14	6	1	3	.....	1	15	10	.....	1
Wallace.....	8	2	.....	1	.....	.....	3	3	.....	.....
Washington.....	7	5	2	.....	.....	1	9	6	1	.....
Wichita.....	.....	3	.....	1	.....	.....	.....	4	.....	.....
Wilson.....	15	12	5	3	4	1	24	16	3	3
Woodson.....	8	1	3	3	1	.....	12	4	1	.....
Wyandotte, <i>except</i>	18	16	7	5	5	1	30	22	.....	4
Kansas City.....	126	90	39	25	14	9	179	124	14	20

TABLE No. 5—CONTINUED.

COUNTIES.	10 to 14 years.		15 to 19 years.		20 to 24 years.		25 to 29 years.		30 to 34 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Allen.....	4	5	3	1	1	1	3	7	2	6
Anderson.....	1	4	1	1	.....	.....	1	.....	3	1
Atchison, <i>except</i>.....	.....	1	1	.....	2	1	1	.....	.....	2
Atchison city.....	2	2	.....	1	2	2	3	5	3	2
Barber.....	.....	.....	1	3	3	3	.....	2	1	1
Barton.....	3	1	3	1	2	3	5	3	2	4
Bourbon, <i>except</i>.....	.....	1	1	.....	2	3	.....	.....	1	.....
Fort Scott.....	.....	3	.....	2	2	1	.....	1	3	3
Brown.....	2	.....	2	2	1	4	.....	1	2	1
Butler.....	3	1	.....	.....	2	2	5	3	.....	6
Chase.....	.....	.....	1	1	3	3	3	3	1	2
Chautauqua.....	1	.....	2	2	1	2	2	1	2	2
Cherokee.....	5	2	3	7	10	17	11	7	6	10
Cheyenne.....	2	.....	.....	1	.....	.....	2	3	.....	.....
Clark.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Clay.....	.....	1	2	2	1	3	2	6	4	2
Cloud.....	1	1	2	3	3	3	3	2	1	1
Coffey.....	.....	1	.....	2	2	2	1	1	.....	3
Comanche.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....
Cowley.....	1	2	9	7	10	4	6	3	4	5
Crawford, <i>except</i>	3	4	2	9	3	6	4	7	11	6
Pittsburg.....	2	2	7	.....	1	4	5	4	3	9
Decatur.....	1	.....	2	.....	.....	.....	1	.....	.....	1
Dickinson.....	3	2	2	5	6	2	2	3	2	5
Doniphan.....	1	.....	.....	4	1	.....	2	1	3	2
Douglas, <i>except</i>	1	1	.....	.....	1	.....	.....	.....	.....	2
Lawrence.....	1	.....	4	3	3	5	1	4	5	1
Edwards.....	2	1	.....	.....	2	1	1	1	.....	.....
Elk.....	2	3	.....	1	.....	1	.....	2	1	1
Ellis.....	1	3	2	1	2	.....	.....	2	2	.....
Ellsworth.....	.....	2	1	1	1	.....	.....	1	2	.....
Finney.....	1	2	2	.....	1	2	1	1	1	5
Ford.....	1	3	2	3	2	.....	6	1	1	3
Franklin.....	4	3	1	4	2	1	3	6	2	5
Geary.....	1	2	1	.....	1	3	4	.....	3	1
Gove.....	.....	.....	3	.....	1	.....	.....	.....	.....	1
Graham.....	.....	.....	2	2	.....	.....	1	3	1	.....
Grant.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
Gray.....	.....	.....	.....	.....	1	1	.....	.....	.....	1
Greeley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenwood.....	.....	1	2	2	3	2	1	1	.....	1
Hamilton.....	.....	.....	.....	.....	1	2	.....	.....	.....	1
Harper.....	3	1	1	2	.....	2	2	2	.....	1
Harvey.....	1	1	3	3	2	5	5	1	1	3
Haskell.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
Hodgeman.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Jackson.....	.....	1	2	5	4	2	1	3	4	1
Jefferson.....	3	1	5	.....	2	4	.....	5	.....	1
Jewell.....	2	2	3	1	2	.....	1	1	.....	4
Johnson.....	.....	2	2	1	4	4	2	1	2	.....
Kearny.....	.....	.....	.....	1	1	.....	.....	.....	.....	1
Kingman.....	.....	.....	2	2	.....	.....	2	1	3	2
Kiowa.....	.....	.....	.....	.....	3	2	.....	1	1	1
Labette, <i>except</i>	3	1	.....	3	4	5	2	4	1	3
Parsons.....	2	1	7	4	4	4	5	3	3	5
Lane.....	.....	1	.....	.....	1	.....	.....	.....	1	1
Leavenworth, <i>except</i>.....	.....	.....	1	.....	2	.....	6	1	4	.....
Leavenworth city.....	3	4	4	1	7	5	4	3	6	4
Lincoln.....	1	.....	1	.....	.....	.....	.....	.....	1	1
Linn.....	2	1	3	3	4	2	1	3	.....	3
Logan.....	1	2	1	.....	2	.....	.....	.....	.....	2
Lyon.....	2	3	3	1	6	3	2	4	4	5
Marion.....	2	1	.....	3	2	5	2	4	1	2
Marshall.....	1	2	.....	1	2	.....	2	4	3	1
McPherson.....	.....	1	2	4	4	4	1	1	.....	2
Meade.....	1	.....	1	.....	.....	.....	2	2	.....	.....
Miami.....	1	.....	5	.....	4	9	5	9	7	6
Mitchell.....	4	1	.....	2	1	.....	1	3	7	3
Montgomery, <i>except</i>.....	.....	1	3	4	2	3	1	3	2	4
Conleyville.....	2	.....	2	3	2	1	5	3	4	5
Independence.....	4	1	1	1	3	7	1	2	4	4
Morris.....	1	.....	1	.....	2	2	1	2	1	3
Morton.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....

TABLE No. 5—CONTINUED.

COUNTIES.	10 to 14 years.		15 to 19 years.		20 to 24 years.		25 to 29 years.		30 to 34 years.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Nemaha.....	1	.....	1	1	2	2	1	2	2	1
Neosho.....	4	2	1	1	3	3	5	5	2	5
Ness.....	.....	.....	1	2	1	.....	2	.....	.....	.....
Norton.....	2	2	1	2	2	2	2	3	1	.....
Osage.....	2	1	1	2	2	3	2	5	7	3
Osborne.....	1	1	1	2	3	2	2	1	.....	1
Ottawa.....	3	1	.....	1	.....	.....	1	.....	.....	1
Pawnee.....	3	.....	1	1	2	1	2	3	1	4
Phillips.....	3	1	.....	.....	.....	.....	1	2	4	3
Pottawatomie.....	2	2	4	2	2	1	2	.....	1	3
Pratt.....	.....	.....	1	.....	1	1	.....	4	.....	2
Rawlins.....	1	.....	.....	.....	2	1	1	.....	2	.....
eno, except.....	1	.....	1	2	2	.....	2	3	1	2
Hutchinson.....	2	2	1	5	4	5	5	5	3	3
Republic.....	2	.....	1	4	2	2	1	2	.....	1
Rice.....	.....	1	2	.....	2	1	3	1	1	3
Riley.....	1	1	2	1	.....	3	1	4	3	2
Rooks.....	1	.....	.....	1	.....	.....	1	1	3	.....
Rush.....	.....	.....	.....	1	3	.....	1	.....	.....	3
Russell.....	.....	1	1	1	.....	.....	3	3	1	1
Saline.....	3	3	4	1	6	9	6	3	3	4
Scott.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sedgwick, except.....	1	1	2	1	.....	1	5	2	1	.....
Wichita.....	3	2	17	9	14	11	17	13	13	16
Seward.....	.....	.....	.....	1	2	.....	.....	.....	.....	1
Shawnee, except.....	2	1	2	3	.....	2	4	.....	1	5
Topeka.....	7	9	3	12	10	12	16	12	22	12
Sheridan.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....
Sherman.....	1	.....	.....	.....	.....	.....	.....	1	.....	2
Smith.....	1	.....	3	3	.....	1	1	2	3	1
Stafford.....	1	1	.....	.....	1	4	1	1	3	3
Stanton.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Stevens.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....
Sumner.....	1	1	2	2	5	6	6	3	5	4
Thomas.....	.....	.....	1	.....	1	.....	1	2	.....	2
Trego.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Wabaunsee.....	1	.....	1	.....	1	2	2	.....	.....	1
Wallace.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....
Washington.....	1	.....	.....	1	.....	2	1	.....	3	1
Wichita.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Wilson.....	2	1	4	5	2	1	3	1	4	2
Woodson.....	1	.....	1	1	2	2	.....	1	1	2
Wyandotte, except.....	2	1	3	.....	6	7	3	5	5	4
Kansas City.....	12	7	16	19	33	27	32	35	42	30

TABLE No. 5—CONTINUED.

COUNTIES.	35 to 39 years.		40 to 44 years.		45 to 49 years.		50 to 59 years.		60 to 69 years.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Allen.....	3	5	2	8	9	7	17	16	20	13
Anderson.....	1	1	5	1	2	2	6	4	12	13
Atchison, <i>except</i>		1	2		2	2	4	4	9	2
Atchison city.....	4	4	2	3	2	1	19	11	14	14
Barber.....	4	2	3	2	1		3	1	4	4
Barton.....		3	1	3	5	4	11	7	19	11
Bourbon, <i>except</i>		2	1	1	1		4	2	6	5
Fort Scott.....	2	6	2	2	3	2	18	6	14	15
Brown.....	2			6	1	1	7	13	16	13
Butler.....	2	2	1	2	5	2	4	7	17	13
Chase.....	4		2	1	3		3		3	4
Chautauqua.....	1	2		2	4	2	3	2	11	11
Cherokee.....	12	6	13	10	11	7	30	27	32	21
Cheyenne.....	1						2	1	3	1
Clark.....			2			1	2	1	4	1
Clay.....	2	1		2	4		8	2	10	11
Cloud.....	3		2	3	1	4	6	6	14	14
Coffey.....	1	2		4	3	12	9	4	16	9
Comanche.....			1			2	1		6	2
Cowley.....	4	12	5	5	8	5	21	11	33	29
Crawford, <i>except</i>	11	7	9	6	13	2	16	14	28	23
Pittsburg.....	7	7	10	8	3	7	12	9	20	14
Decatur.....	1				4	1	5	5	6	6
Dickinson.....	3	2	6	2	4	3	8	12	16	24
Doniphan.....	1	1	1	1	5	4	9	11	12	4
Douglas, <i>except</i>	3		1	2	1	2	5	2	3	4
Lawrence.....	4	2	2	5	4	3	10	10	14	13
Edwards.....	4	1					2	2	5	2
Elk.....	1			1	3	1	4	5	8	5
Ellis.....	1	1	5		2	1	3	1	7	4
Ellsworth.....	4	1			2	3	8	6	6	7
Finney.....	2			2	1	1	3	3	6	1
Ford.....	3	6	4	1	4	7	5	3	10	3
Franklin.....	6	5	6	4	3	6	10	16	22	23
Geary.....		1	3	3	1	2	1	5	8	3
Gove.....			1	1		1		3	1	3
Graham.....	4	2	1	1			1	3	3	1
Grant.....							1		1	1
Gray.....					1		3	2		1
Greeley.....									1	
Greenwood.....		2	1	3	2	1	7	4	13	10
Hamilton.....									4	2
Harper.....	2	1	2	3	1	1	1	3	13	10
Harvey.....	1	3	3	3	6	4	10	11	22	14
Haskell.....									1	1
Hodgeman.....				1					1	1
Jackson.....	2	3	4	1	3	6	6	13	11	6
Jefferson.....		2	4	3	3	3	7	5	16	11
Jewell.....	2	2	2	1	3	3	7	12	16	9
Johnson.....	3		4	2	3		17	8	14	14
Kearny.....				2					3	2
Kingman.....	3	3	1	1	2	2	3	2	7	4
Kiowa.....		2		4		1	5	1	4	4
Labette, <i>except</i>	5	5	5	1	4	3	12	10	15	10
Parsons.....	4	6	1	3	3	3	13	11	18	17
Lane.....		1							3	1
Leavenworth, <i>except</i>	10	2	6	2	6	5	12	6	49	3
Leavenworth city.....	9	6	12	5	6	7	19	6	11	15
Lincoln.....				2	1		4	4	5	7
Linn.....	1	2	4	3	4	2	6	5	11	12
Logan.....	1		2			1	1	2	1	2
Lyon.....	4	6	5	6	3	3	14	14	29	20
Marion.....		3	2	4	1	5	6	6	24	12
Marshall.....		4	1	4	4	1	16	3	11	14
McPherson.....	5	4	12	4	4	1	9	11	20	12
Meade.....		1					2	2	3	4
Miami.....	10	4	10	10	8	11	22	14	35	26
Mitchell.....	3	4	3	3	2	4	3	3	10	9
Montgomery, <i>except</i>	5		5	5	1	2	16	10	19	22
Coffeyville.....	3		5	5	4	4	11	5	11	12
Independence.....	4	2		2	7	4	6	8	13	5
Morris.....	1	2	3	1	1	2	6	5	8	6
Morton.....							1			

TABLE No. 5—CONTINUED.

COUNTIES.	35 to 39 years.		40 to 44 years.		45 to 49 years.		50 to 59 years.		60 to 69 years.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Nemaha.....	2	4	2	2	4	4	18	7	18	18
Neosho.....	4	1	6	2	2	2	7	9	11	13
Ness.....	1	3				2	4	2	7	3
Norton.....			2		1	4	4	6	4	8
Osage.....	4	1	8	5	1	2	11	7	17	10
Osborne.....	4	3		1	1	3	6	5	14	3
Ottawa.....		3		1	2	1	6	3	9	3
Pawnee.....	3	1	1		3	1	8	3	12	4
Phillips.....	1	2			1	1	4	3	15	10
Pottawatomie.....	4	2		2	1	3	4	3	19	12
Pratt.....	2	1	2	1	3	1	4	6	8	5
Rawlins.....	1	2					1	1	5	3
Reno, <i>except</i>	2	2	2	2		3	10	3	9	9
Hutchinson.....	4	4	3	5	10	6	8	10	19	14
Republic.....	1	1		1	2	3	8	7	10	8
Rice.....	1	1	2	1	4	1	5	2	9	10
Riley.....	5	2	2	2	3	4	11	5	13	17
Rooks.....	1						5	3	2	3
Rush.....				2	1	2	3	2	5	3
Russell.....	1	3	1	1	1	1	4	3	8	6
Saline.....	4	4	4	6	10	2	13	9	18	10
Scott.....		1		1					3	
Sedgwick, <i>except</i>	2	1	2	1	3	1	6	4	11	13
Wichita.....	16	25	21	13	21	19	59	45	51	45
Seward.....			1		2		2	1	2	1
Shawnee, <i>except</i>	8	1	11	2	6	6	23	13	25	16
Topeka.....	18	13	26	14	16	20	43	38	65	48
Sheridan.....	1				2		1		4	1
Sherman.....		1		1	2	1	1	4	1	
Smith.....	3	2		2	2		5	5	9	11
Stafford.....	1	1	1	1	2		7	3	9	14
Stanton.....										
Stevens.....				1			3		1	1
Sumner.....	4	3	4	3	3	3	9	11	30	16
Thomas.....					1		1		3	4
Trego.....					1	1		3	5	2
Wabaunsee.....	2	3	1	2		3	7	3	7	6
Wallace.....	1	2					1	1	2	1
Washington.....	1		3	2	2		8	6	14	14
Wichita.....							2			2
Wilson.....	2	1	5	4	3	1	12	9	15	19
Woodson.....			3	1		1	6	5	6	5
Wyandotte, <i>except</i>	6	4	3	4	5	5	19	22	12	17
Kansas City.....	38	34	39	30	36	24	112	55	94	70

TABLE No. 5—CONTINUED.

COUNTIES.	70 to 79 years.		80 to 89 years.		90 to 99 years.		100 years and above.		Unknown ages.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
Allen.....	80	18	18	4	.....	4	.....	1	1	.....
Anderson.....	14	26	16	14	1	1	.....	.....	.....	.....
Atchison, <i>except</i>	8	6	7	5	2	1	.....	1	.....	.....
Atchison city.....	24	18	18	6	2	3	.....	.....	.....	.....
Barber.....	7	4	1	3	.....	1	.....	.....	.....	.....
Barton.....	25	9	9	7	.....	1	.....	.....	.....	.....
Bourbon, <i>except</i>	9	17	6	8	1	2	1	.....	2	.....
Fort Scott.....	13	11	14	6	.....	2	.....	1	.....	.....
Brown.....	24	17	11	10	4	1	.....	.....	.....	.....
Butler.....	25	25	18	7	4	4	.....	.....	.....	.....
Chase.....	8	10	5	1	.....	.....	.....	.....	1	.....
Chautauqua.....	17	10	8	4	2	1	.....	.....	.....	.....
Cherokee.....	83	24	12	16	3	.....	.....	.....	.....	1
Cheyenne.....	4	3	1	2	.....	.....	.....	.....	.....	.....
Clark.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....
Clay.....	18	13	17	12	1	2	.....	.....	1	1
Cloud.....	22	18	10	9	1	2	.....	.....	.....	.....
Coffey.....	18	15	10	7	1	3	.....	.....	.....	1
Comanche.....	2	2	.....	1	.....	.....	.....	.....	.....	.....
Cowley.....	39	25	16	11	.....	.....	1	.....	1	.....
Crawford, <i>except</i>	35	29	14	15	2	1	1	.....	1	.....
Pittsburg.....	10	20	2	6	.....	2	.....	.....	2	.....
Decatur.....	11	2	5	5	.....	.....	.....	.....	.....	.....
Dickinson.....	25	22	17	14	3	.....	.....	.....	.....	.....
Doniphan.....	17	14	13	4	.....	1	.....	1	1	.....
Douglas, <i>except</i>	15	11	13	12	.....	.....	.....	.....	.....	.....
Lawrence.....	25	14	15	9	1	6	.....	.....	.....	.....
Edwards.....	6	4	3	2	.....	.....	.....	.....	.....	.....
Elk.....	11	10	6	5	1	1	.....	.....	.....	.....
Ellis.....	8	8	4	2	1	.....	.....	.....	1	1
Ellsworth.....	10	14	6	5	.....	.....	.....	.....	.....	2
Finney.....	3	3	5	2	.....	.....	.....	.....	.....	.....
Ford.....	19	6	6	4	.....	.....	.....	.....	.....	.....
Franklin.....	26	26	18	17	4	1	.....	.....	.....	1
Geary.....	11	9	6	6	.....	2	.....	.....	3	.....
Gove.....	2	1	.....	4	.....	1	.....	.....	.....	.....
Graham.....	5	3	4	3	1	1	.....	.....	4	.....
Grant.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Gray.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Greeley.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenwood.....	13	14	6	6	1	.....	.....	.....	.....	.....
Hamilton.....	1	1	.....	3	1	.....	.....	.....	.....	.....
Harper.....	10	12	3	8	3	1	.....	.....	.....	.....
Harvey.....	30	17	17	8	3	2	.....	.....	.....	.....
Haskell.....	1	.....	1	.....	1	.....	.....	.....	.....	.....
Hodgeman.....	4	2	1	.....	.....	.....	.....	.....	.....	.....
Jackson.....	19	16	8	9	4	2	.....	.....	.....	.....
Jefferson.....	24	19	15	13	3	1	.....	.....	2	.....
Jewell.....	17	7	8	6	.....	1	.....	.....	.....	.....
Johnson.....	26	16	17	13	1	1	.....	.....	.....	.....
Kearny.....	4	1	1	.....	.....	.....	.....	.....	.....	.....
Kingman.....	15	3	4	6	1	.....	.....	.....	.....	.....
Kiowa.....	5	4	3	1	.....	.....	.....	.....	.....	.....
Labette, <i>except</i>	40	24	20	10	.....	.....	.....	2	1	.....
Parsons.....	12	14	8	9	4	2	.....	1	2	.....
Lane.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Leavenworth, <i>except</i>	195	16	69	8	7	1	.....	.....	6	.....
Leavenworth city.....	23	31	20	19	3	5	.....	.....	1	.....
Lincoln.....	8	8	7	7	1	.....	.....	.....	.....	.....
Linn.....	14	11	13	10	2	2	.....	.....	.....	.....
Logan.....	1	1	1	.....	.....	.....	.....	.....	.....	.....
Lyon.....	37	20	19	13	1	4	1	.....	.....	.....
Marion.....	27	16	8	5	3	.....	.....	.....	.....	.....
Marshall.....	25	14	11	17	1	2	.....	.....	.....	.....
McPherson.....	22	23	16	10	2	4	.....	.....	1	.....
Meade.....	4	.....	1	1	1	1	.....	.....	.....	.....
Miami.....	33	30	17	13	5	3	1	.....	3	.....
Mitchell.....	20	12	4	6	1	.....	.....	.....	.....	.....
Montgomery, <i>except</i>	27	19	13	11	2	.....	.....	.....	.....	1
Coffeyville.....	10	10	12	2	.....	.....	.....	.....	.....	.....
Independence.....	24	13	8	5	.....	.....	.....	.....	.....	1
Morris.....	6	14	5	6	.....	1	.....	.....	.....	.....
Morton.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....

TABLE No. 5—CONCLUDED.

CITY.	70 to 79 years.		80 to 89 years.		90 to 99 years.		100 years and above.		Unknown ages.	
	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.	Male.	Fe- male.
.....	22	12	18	5	4	1	.....	.....	.....	.....
.....	27	22	16	16	1	2	.....	.....	1	.....
.....	8	3	3	3	.....	.....	.....	.....	.....	.....
.....	11	10	9	8	1	1	.....	.....	.....	.....
.....	26	21	13	12	4	4	.....	.....	.....	.....
.....	12	6	8	11	.....	2	.....	.....	.....	.....
.....	16	13	6	6	2	2	.....	.....	1	.....
.....	8	3	4	8	.....	.....	.....	.....	.....	.....
.....	14	4	4	6	3	.....	.....	.....	.....	.....
le.....	18	10	7	8	1	.....	.....	.....	.....	.....
.....	11	2	1	3	.....	1	.....	.....	1	.....
.....	2	2	2	1	1	.....	.....	.....	.....	1
.....	12	14	9	5	.....	1	.....	.....	1	.....
on.....	14	14	7	6	.....	1	.....	.....	.....	.....
.....	20	9	13	5	2	.....	.....	.....	1	.....
.....	20	11	8	9	1	1	.....	.....	1	.....
.....	26	9	7	7	1	1	.....	.....	.....	1
.....	9	6	3	7	1	.....	.....	.....	.....	.....
.....	4	2	2	1	2	1	.....	.....	.....	.....
.....	7	10	7	8	1	.....	.....	.....	.....	.....
.....	19	24	16	9	1	.....	.....	.....	.....	.....
.....	1	.....	1	1	.....	.....	.....	.....	1	.....
cept.....	16	9	7	4	2	.....	.....	.....	1	.....
.....	54	44	34	42	5	2	.....	1	.....	.....
.....	2	3	.....	1	.....	.....	.....	.....	.....	.....
cept.....	30	19	19	11	1	3	.....	.....	.....	.....
.....	73	50	39	19	3	3	.....	1	2	.....
.....	.....	2	.....	1	1	.....	.....	.....	.....	.....
.....	7	1	4	.....	.....	.....	.....	.....	.....	.....
.....	12	13	5	5	.....	.....	.....	.....	.....	.....
.....	9	8	8	6	1	.....	.....	.....	.....	.....
.....
.....	.....	3	.....	1	.....	.....	.....	.....	.....	.....
.....	45	28	13	8	.....	2	.....	.....	.....	.....
.....	1	6	2	1	.....	.....	.....	.....	1	.....
.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....
.....	10	8	15	4	2	.....	.....	.....	1	.....
.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
1.....	23	19	9	5	.....	2	.....	.....	.....	.....
.....	1	5	1	.....	.....	.....	.....	.....	.....	.....
.....	23	14	10	9	1	.....	.....	.....	.....	.....
.....	12	6	5	6	.....	5	.....	.....	.....	1
cept.....	20	19	9	3	3	.....	.....	.....	1	.....
City.....	61	63	42	27	1	4	.....	2	.....	.....

TABLE No. 6. Showing the deaths by counties, by sex, color, conjugal condition and nativity, 1914.

COUNTIES.	Sex.		Color.				Conjugal condition.					Nativity.		
	Male.	Female.	White.	Black.	Indian.	Yellow.	Single.	Married.	Widowed.	Divorced.	Un-known.	Native.	Foreign.	Un-known.
Allen.....	146	130	253	23	.....	.....	92	128	47	6	8	232	33	6
Anderson.....	70	48	118	.....	.....	.....	34	53	29	1	1	104	13	1
Atchison, except.....	64	41	101	4	.....	.....	42	40	20	.....	3	81	15	9
Atchison city.....	107	91	158	40	.....	.....	53	88	50	.....	7	157	39	2
Barber.....	59	31	89	1	.....	.....	33	35	19	2	1	75	14	1
Barton.....	111	83	187	7	.....	.....	98	62	26	2	6	150	40	4
Bourbon, except.....	43	54	94	3	.....	.....	34	39	23	.....	1	87	8	2
Fort Scott.....	93	85	156	22	.....	.....	55	73	48	1	1	166	11	1
Brown.....	122	80	188	9	5	.....	94	71	32	.....	5	176	21	5
Butler.....	96	101	197	.....	.....	.....	76	78	37	1	5	178	11	8
Chase.....	49	23	69	3	.....	.....	31	25	14	.....	2	53	14	.....
Chautauqua.....	54	38	91	1	.....	.....	36	37	16	1	2	84	4	4
Cherokee.....	288	219	477	30	.....	.....	210	196	97	2	2	442	57	8
Cheyenne.....	9	15	24	.....	.....	.....	12	7	5	.....	.....	21	2	1
Clark.....	13	10	28	.....	.....	.....	13	11	4	.....	.....	27	1	.....
Clay.....	68	64	129	3	.....	.....	43	60	24	4	1	97	29	6
Cloud.....	107	73	179	1	.....	.....	63	78	31	2	1	146	32	2
Coffey.....	81	58	139	.....	.....	.....	42	63	31	1	2	110	28	1
Comanche.....	13	19	37	.....	.....	.....	13	17	4	1	2	29	5	3
Cowley.....	226	179	391	10	4	.....	134	173	94	3	1	371	27	7
Crawford, except.....	227	185	383	29	.....	.....	177	164	67	3	1	380	76	6
Pittsburg.....	150	100	233	17	.....	.....	98	119	30	1	2	198	42	10
Decatur.....	30	21	51	.....	.....	.....	15	20	13	.....	3	40	6	5
Dickinson.....	112	92	203	1	.....	.....	74	88	33	2	2	161	34	9
Doniphan.....	91	67	142	16	.....	.....	60	60	36	.....	2	135	20	3
Douglas, except.....	43	50	88	5	.....	.....	21	38	33	1	.....	81	12	.....
Lawrence.....	98	92	153	37	.....	.....	52	82	50	2	4	163	24	3
Edwards.....	34	26	59	1	.....	.....	31	22	5	2	1	54	4	2
Elk.....	50	35	85	.....	.....	.....	24	46	12	1	2	75	10	.....
Ellis.....	64	55	118	1	.....	.....	62	47	7	.....	3	81	36	2
Ellsworth.....	43	50	98	.....	.....	.....	32	40	25	1	.....	68	29	1
Finney.....	34	20	50	4	.....	.....	27	20	5	.....	2	49	5	.....
Ford.....	110	52	161	1	.....	.....	61	76	22	2	1	143	15	4
Franklin.....	132	107	230	9	.....	.....	77	110	48	2	2	217	20	2
Geary.....	53	50	95	3	.....	.....	34	42	24	1	2	72	26	5
Gove.....	13	16	34	.....	.....	.....	9	17	3	.....	.....	31	3	.....
Graham.....	31	29	55	5	.....	.....	30	16	11	2	1	53	4	3
Grant.....	5	.....	5	.....	.....	.....	2	1	1	.....	.....	4	1	.....
Gray.....	9	12	21	.....	.....	.....	11	7	2	1	.....	19	2	.....

TABLE No. 6—CONCLUDED.

COUNTY.	Sex.		Col.		Conjugal condition.					Nativity.		
	Male.	Female.	White.	Black.	Single.	Married.	Widowed.	Divorced.	Unknown.	Native.	Foreign.	Unknown.
Riley.....	80	58	134	4	46	56	34	2	..	99	87	2
Rooks.....	52	46	95	8	33	45	19	..	1	88	12	3
Rush.....	31	26	57	..	30	19	7	..	1	47	9	1
Russell.....	52	41	98	..	33	48	14	3	1	68	24	1
Saline.....	98	64	155	7	51	71	37	8	..	124	88	..
Scott.....	5	6	11	..	8	8	..	..	..	11	..	..
Sedgwick, except Wichita ..	72	59	123	3	65	41	22	..	3	115	15	1
Seward.....	370	286	611	44	210	286	189	6	8	682	57	17
Shawnee, except Topeka ..	18	11	29	..	16	5	3	2	2	25	1	..
Sheridan.....	86	51	126	8	40	61	35	..	..	117	16	1
Sherman.....	467	456	718	186	288	358	210	13	7	671	104	49
Shoemaker.....	22	8	29	1	10	13	5	1	1	27	2	1
Smith.....	24	14	38	..	12	17	9	..	..	31	7	..
Stafford.....	71	70	141	..	56	55	27	1	2	125	16	..
Stanton.....	50	58	107	1	41	44	32	1	..	92	14	..
Stevens.....	8	2	5	..	2	8	..	..	..	8	1	2
Sumner.....	14	7	19	2	9	6	4	..	2	18	2	1
Sumter.....	163	141	300	4	107	126	63	4	4	280	19	5
Thomas.....	23	12	35	..	17	12	6	..	..	28	6	1
Trego.....	20	12	32	..	13	16	8	..	..	25	7	..
Wabaunsee.....	59	43	98	9	34	43	22	..	3	77	28	..
Wallace.....	8	5	13	..	5	5	2	1	..	10	1	..
Washington.....	86	76	162	..	57	68	30	4	8	113	41	8
Wichita.....	5	1	6	..	..	6	..	..	..	6	..	..
Wilson.....	108	101	207	2	32	53	37	1	6	187	16	6
Woodson.....	47	39	86	..	30	36	19	1	1	76	8	..
Wyandotte, except Kansas City ..	133	110	188	54	82	90	53	11	6	207	21	14
Kansas City ..	689	647	989	247	280	476	304	21	6	1,014	308	19

	Male.	Female.	White.	Black.	Indian.	Yellow.	Single.	Married.	Unemployed.	Forced.	Unknown.	Native.	Foreign.	Unknown.
Allen.....	147	113	247	13	.....	.....	73	125	52	6	4	235	22	3
Anderson.....	80	77	154	3	.....	.....	41	62	50	2	2	149	7	1
Atchison except Atchison city.....	43	32	67	8	.....	.....	26	23	24	1	1	63	12	.....
Barber.....	113	84	164	33	.....	.....	47	93	49	5	3	162	34	1
Barton.....	40	43	83	.....	.....	.....	37	35	9	.....	2	75	8	.....
Bourbon.....	119	80	190	9	.....	.....	79	85	31	1	3	155	41	3
Bourbon, except Fort Scott.....	48	51	94	5	.....	.....	33	36	30	.....	.....	89	8	2
Brown.....	91	77	144	24	.....	.....	53	65	43	.....	.....	153	9	6
Brown.....	98	91	176	10	.....	.....	63	83	40	.....	.....	163	21	.....
Butler.....	108	89	196	1	.....	.....	52	90	52	1	2	163	27	2
Chase.....	49	36	83	2	.....	.....	40	26	17	.....	2	72	9	4
Chautauqua.....	74	51	121	4	.....	.....	38	61	23	2	1	118	6	1
Cherokee.....	246	210	430	26	.....	.....	161	191	95	4	5	414	40	2
Cheyenne.....	21	12	33	.....	.....	.....	12	15	6	.....	.....	27	6	.....
Clark.....	15	11	26	.....	.....	.....	15	5	5	.....	.....	22	3	1
Clay.....	79	69	146	2	.....	.....	39	68	36	.....	1	111	36	1
Cloud.....	95	79	173	1	.....	.....	56	72	45	.....	1	140	34	.....
Coffey.....	71	77	146	2	.....	.....	32	75	33	.....	3	134	13	1
Comanche.....	18	13	31	.....	.....	.....	15	9	6	1	.....	27	2	2
Cowley.....	193	146	326	11	.....	.....	120	144	68	2	5	309	26	4
Crawford, except Pittsburg.....	243	202	422	23	.....	.....	194	165	76	4	6	352	85	8
Pittsburg.....	117	114	216	14	.....	.....	77	105	47	.....	.....	187	34	10
Decatur.....	44	24	68	.....	.....	.....	20	31	16	.....	1	5	10	1
Dickinson.....	116	125	238	3	.....	.....	65	120	49	.....	4	183	54	4
Doniphan.....	86	69	143	11	.....	.....	53	63	33	2	4	127	24	4
Douglas, except Lawrence.....	49	44	87	5	.....	.....	20	45	25	3	.....	77	16	.....
Lawrence.....	103	89	147	43	.....	.....	50	87	51	3	1	162	30	.....
Edwards.....	40	20	59	1	.....	.....	29	20	8	1	2	53	6	1
Elk.....	49	45	94	.....	.....	.....	29	40	24	.....	.....	89	5	.....
Ellis.....	71	47	116	2	.....	.....	67	31	17	1	.....	82	34	2
Ellsworth.....	62	49	108	3	.....	.....	42	33	32	.....	3	82	32	2
Finney.....	39	31	66	4	.....	.....	29	27	13	.....	1	77	5	.....
Ford.....	86	58	139	5	.....	.....	52	75	13	3	.....	65	15	5
Franklin.....	140	137	265	12	.....	.....	73	125	68	3	8	124	28	2
Gear.....	51	48	85	14	.....	.....	31	42	22	1	3	247	27	1
Gove.....	17	18	35	.....	.....	.....	17	12	6	.....	.....	30	5	.....
Graham.....	40	31	62	9	.....	.....	34	22	12	2	1	64	7	.....
Grant.....	5	5	10	.....	.....	.....	6	1	2	.....	1	9	1	.....
Gray.....	8	12	20	.....	.....	.....	10	9	1	.....	.....	18	1	1

TABLE No. 7—CONCLUDED.

COUNTIES.	Sex.		Color.				Conjugal condition.				Nativity.			
	Male.	Female.	White.	Black.	Indian.	Yellow.	Single.	Mar- ried.	Wid- owed.	Di- vorced.	Un- known.	Native.	Foreign.	Un- known.
Greeley.....	1	1	2	.....	.....	.....	1	.....	.....	1	.....	2	.....	.....
Greenwood.....	78	57	134	1	.....	.....	50	53	32	.....	.....	122	11	2
Hamilton.....	14	12	26	.....	.....	.....	13	10	3	.....	.....	23	2	1
Harper.....	61	62	122	1	.....	.....	47	48	28	.....	.....	115	8	.....
Harvey.....	135	85	213	7	.....	.....	62	101	56	.....	1	173	46	1
Haskell.....	7	5	11	1	.....	.....	5	5	2	.....	.....	10	2	.....
Hodgeman.....	12	10	22	.....	.....	.....	13	7	2	.....	.....	17	5	.....
Jackson.....	84	86	151	2	17	.....	59	70	39	.....	2	146	22	2
Jefferson.....	102	82	180	4	.....	.....	57	76	48	1	2	164	18	2
Jewell.....	71	61	132	.....	.....	.....	33	62	34	1	2	115	15	2
Johnson.....	116	79	178	17	.....	.....	53	95	41	1	5	168	21	6
Kearny.....	13	9	22	.....	.....	.....	6	12	2	.....	2	19	3	.....
Kingman.....	62	44	106	.....	.....	.....	47	33	23	.....	3	96	9	.....
Kiowa.....	35	30	65	.....	.....	.....	30	23	11	.....	1	61	2	1
Labette, except.....	128	96	207	17	.....	.....	62	105	52	2	3	211	11	2
Parsons.....	100	94	163	80	1	.....	59	66	64	4	1	170	21	3
Lane.....	11	9	20	.....	.....	.....	10	6	4	.....	.....	18	2	.....
Leavenworth, except.....	381	55	421	14	.....	1	89	137	196	2	12	356	64	16
Leavenworth city.....	149	123	229	48	.....	.....	82	102	88	2	3	195	75	7
Lincoln.....	42	31	73	.....	.....	.....	23	23	25	1	1	59	14	.....
Linn.....	83	72	151	4	.....	.....	49	69	35	2	.....	146	7	2
Logan.....	15	15	29	1	.....	.....	15	12	3	.....	.....	29	1	.....
Lyon.....	164	130	278	16	.....	.....	96	121	69	2	6	243	46	5
Marion.....	108	100	208	.....	.....	.....	86	81	39	.....	2	155	53	.....
Marshall.....	104	86	189	1	.....	.....	64	77	46	2	1	148	41	.....
McPherson.....	119	108	226	1	.....	.....	73	93	56	2	3	141	82	4
Meade.....	22	16	37	.....	.....	.....	18	12	8	.....	.....	37	.....	1
Miami.....	187	155	320	22	.....	.....	111	127	91	3	10	273	46	23
Mitchell.....	85	61	146	.....	.....	.....	50	66	28	1	1	121	23	2
Montgomery, except.....	129	112	233	8	.....	.....	82	97	58	2	2	228	11	2
Coffeyville.....	88	72	129	31	.....	.....	54	78	27	1	.....	152	7	1
Independence.....	91	71	146	16	.....	.....	55	68	38	1	.....	144	16	2
Morris.....	48	54	97	5	.....	.....	30	44	27	.....	1	84	17	1
Morton.....	2	5	7	.....	.....	.....	3	3	1	.....	.....	7	.....	.....
Nemaha.....	117	67	183	1	.....	.....	54	33	40	1	1	141	42	1
Neosho.....	120	103	215	8	.....	.....	74	92	54	.....	3	198	21	4
Ness.....	40	22	61	1	.....	.....	23	23	12	.....	4	53	9	.....
Norton.....	54	53	112	.....	.....	.....	43	45	23	1	.....	102	7	3
Osage.....	113	91	204	5	.....	.....	59	95	49	2	4	173	34	2
Osborne.....	67	53	120	.....	.....	.....	42	53	25	.....	.....	107	13	.....

TABLE No. 8. Showing the causes of death by counties, 1914.

COUNTIES.	Typhoid fever.....	Malaria.....	Smallpox.....	Measles.....	Scarlet fever.....	Whooping cough.....	Diphtheria and croup.	Influenza.....	Dysentery.....	Erysipelas.....	Purulent infection and septicemia.....	Anthrax.....
Allen.....	10		1	2		8	7		8	1	1	
Anderson.....	5	1		1			2	1	1	1		
Atchison, <i>except</i>	2						2		1		1	
Atchison city.....	9			1	2	1	1					
Barber.....	2					1						
Barton.....	6		1			5	2	1	1		1	
Bourbon, <i>except</i>					1	8	1	1	1		1	
Fort Scott.....	6				1	1	1	2			1	
Brown.....	8			1	1	1	3	1		2		
Butler.....	5			1		4	2					
Chase.....					1		2				1	
Chautauqua.....	2	1					3	1		1		
Cherokee.....	6	4		5		7	4			1	4	
Cheyenne.....	1									1		
Clark.....				1					1			
Clay.....	8			1			1	1	1			
Cloud.....	1						1					
Coffey.....	3	1	1			2		5			3	
Comanche.....	1											
Cowley.....	11	1				1	5	1			6	
Crawford, <i>except</i>	17	2		1	1	9	14	3	1		2	
Pittsburg.....	8	1			1	2	2				3	
Decatur.....							1					
Dickinson.....	5					1	2			1		
Doniphan.....	4					3	1	1		2	1	
Douglas, <i>except</i>						1					1	
Lawrence.....	2			2		1		1			1	
Edwards.....	1					1					1	
Elk.....	3						1				2	
Ellis.....	1					2	2				1	
Ellsworth.....	2		1			1	1					
Finney.....	2	1			1		1				1	
Ford.....	6			1		3	1				1	
Franklin.....	9					1	3	1	1			
Geary.....				2			1			1	1	
Gove.....	1					3						
Graham.....						2						
Grant.....												
Gray.....	2											
Greeley.....	1											
Greenwood.....	3					3	1				1	
Hamilton.....	1					1		1				
Harper.....	1					3	1		1	1	2	
Harvey.....	5					1	3			2	1	
Haskell.....										1		
Hodgeman.....				1								
Jackson.....	2			1				1				
Jefferson.....	4				1		1				1	1
Jewell.....	4					2	1		1			
Johnson.....	4			1						1		
Kearny.....	3					1						
Kingman.....			1	2							2	
Kiowa.....						1	1	1				
Labette, <i>except</i>	1	1		7	1	2	8	3			1	
Parsons.....		1					3					
Lane.....												
Leavenworth, <i>except</i> ,.....	4					2		2			1	
Leavenworth city,.....	2			3	2	5	3	2		2	2	
Lincoln.....					2	3	1			1		
Linn.....	4	1				1	5				2	
Logan.....	1					1					1	
Lyon.....	1					2	2	1		1		
Marion.....						2			1	1	2	
Marshall.....	3	1			1		2	1				
McPherson.....						1	1				1	
Meade.....	1					1						
Miami.....	2							2	1	1	5	
Mitchell.....									1		2	

TABLE No. 8—CONTINUED.

IES.	Typhoid fever.....	Malaria.....	Smallpox.....	Measles.....	Scarlet fever.....	Whooping cough.....	Diphtheria and croup.	Influenza.....	Dysentery.....	Erysipelas.....	Purulent infection and septicemia.....	Anthrax.....
ty, except le. lence.	9	1	1	10	2	8	4				1	
	6			6		2	2				2	
	1			4		4	2			1	3	
	8				1	1		4			1	
	2	4				8	5	1			2	
	9					1	1	1				
					1	7	1	1			1	
	1	1				2	1	2	1		1	
	2					2		1	1			
	1											
	6											
	1					1	1	1	1	1		
nie.				1		1	1	1	1			
	8	2					1				1	
	2											
st. ion.	2					6	1	1	2	1	2	
	7		1	2	5		2	2		1		
	1					1	1				1	
	4					4			1		3	
	1										1	
	1					1		1				
	8					2					1	
				1		2					1	
	8			1		1		1		1		
except.	2					1	1		1			
	17			1	1	3	1	1	3	2	5	
						5	1	2				
except.	2					1	4		1	1		
	5	1		2		3	6	3	1	1	6	
						1						
	8					6	3	1	1	1	1	
	4			1			1					
	2						1					
	4			2		2	3	1				
	1						1					
	1											
e.				1					2			
						1						
n.	2											
	7				1	2	7	1	2	4		
	8						3	1				
e, except.	4			1		4	3		3	1		
City.	22			4	8	17	16	2		5	11	

TABLE No. 8—CONTINUED.

COUNTIES.	Rabies.....	Tetanus.....	Mycoses.....	Pellagra.....	Tuberculosis, all forms.....	Tuberculosis of lungs.	Acute miliary tuber- culosis.....	Tuberculous menin- gitis.....	Abdominal tubercu- losis.....	Pott's disease.....	White swellings.....	Tuberculosis of other organs.....
Allen.....					25	22			2			1
Anderson.....					4	4						
Atchison, <i>except</i>					4	3		1				
Atchison city.....					14	14						
Barber.....					4	4						
Barton.....		2			7	5		1	1			
Bourbon, <i>except</i>		1			9	8					1	
Fort Scott.....		1			8	8						
Brown.....					7	6			1			
Butler.....				1	8	7	1					
Chase.....					7	7						
Chautauqua.....					5	4		1				
Cherokee.....				2	41	38	1		1			1
Cheyenne.....												
Clark.....					1							1
Clay.....					8	6	1		1			
Cloud.....		1			5	5						
Coffey.....		1			10	10						
Comanche.....					2	2						
Cowley.....		3		1	20	19						
Crawford, <i>except</i>				1	14	11			2			1
Pittsburg.....		1			17	15		1	1			
Decatur.....					8	2						1
Dickinson.....		2			14	13			1			
Doniphan.....					7	7						
Douglas, <i>except</i>					7	5						2
Lawrence.....		1			8	7			1			
Edwards.....					2	2						
Elk.....					1	1						
Ellis.....					5	5						
Ellsworth.....					3	2						1
Finney.....					8	8						
Ford.....					8	5	1		2			
Franklin.....		1			11	9						2
Geary.....					5	5						
Gove.....		1										
Graham.....					2	2						
Grant.....												
Gray.....												
Greeley.....					1	1						
Greenwood.....				1	7	7						
Hamilton.....					3	3						
Harper.....					3	2		1				
Harvey.....					8	6			1			1
Haskell.....												
Hodgeman.....												
Jackson.....		1			14	13			1			
Jefferson.....		1			4	3						1
Jewell.....					2	2						
Johnson.....					13	10		1	1	1		
Kearny.....					1	1						
Kingman.....		1			8	5		2				1
Kiowa.....					8	8						
Labette, <i>except</i>					11	10						1
Parsons.....				1	17	16			1			
Lane.....					1							1
Leavenworth, <i>except</i>					7	6		1				
Leavenworth city.....				1	20	18			1			1
Lincoln.....												
Linn.....					13	12			1			
Logan.....					1	1						
Lyon.....		1		1	13	10				1	1	1
Marion.....					10	7		1				2
Marshall.....		1			12	9			2			1
McPherson.....					7	7						
Meade.....					2	1		1				
Miami.....	1		1		17	13	1	1	1			1
Mitchell.....					3	3						

TABLE No. 8—CONTINUED.

	Rabies.....	Tetanus.....	Mycoses.....	Pellagra.....	Tuberculosis, all forms.....	Tuberculosis of lungs.	Acute miliary tuber- culosis.....	Tuberculous menin- gitis.....	Abdominal tubercu- losis.....	Pott's disease.....	White swellings.....	Tuberculosis of other organs.....
ries.												
ry, except lle.....	1	1		2	20	17	1		1	1		1
dence.....					6	5						
					8	8						
					6	6						
					11	10						1
					11	9		1				1
		1			1	1						
			1		2	2		1	2		1	
					8	4		1			1	
					1			1				
		1			5	4			1			
					4	3	1					
mie.					6	5			1			
					4	3			1			
					8	5			2			1
		1			1	1						
pt		2	1		7	7						
ison.					18	17						1
		1			7	7						
					6	5			1			
					4	4						
					8	2					1	
					1							1
					6	6		1				
		1			16	14		1	1			
		1			2	2						
except.		1			7	5			1			
		1		5	29	27		1	1			
					3	3						
except.					14	12		1				1
		1		2	49	38	1	1	5	3		1
					2	2						
					2	2						
		1		1	5	5	1					
					6	5						
		1						1		2		
					16	13						
					1	1						
ee.					7	7						
ton.					11	11						
					10	8			2			
					7	7						
tte, except.		1			19	16		1	1	1		
s City.....		1			140	117	7	8	7	8		2

TABLE No. 8—CONTINUED.

COUNTIES.	Disseminated tuber- culosis.....	Rickets.....	Syphilis.....	Gonococcus infection.	Cancer, all forms...	Cancer of Buccal cavity.....	Cancer of stomach and liver.....	Cancer of peritoneum, intestines, rectum.	Cancer of female genital organs.....	Cancer of breast.....	Cancer of skin.....	Cancer of other or un- specified organs....
Allen.....					17	1	6	8	1	1	1	4
Anderson.....					10		7			1		2
Atchison, <i>except</i>			1		4		2					2
Atchison city.....					18		9	2	2	1		4
Barber.....					5		2	1	1			1
Barton.....					11		6	1	1	2		1
Bourbon, <i>except</i>					10		5	1		1		3
Fort Scott.....					14		9	1	1			3
Brown.....					12	1	6	1		2		2
Butler.....					14	1	6	1	8			3
Chase.....					3		1					2
Chautauqua.....					4		1		1	1		1
Cherokee.....			2		16		8	6	1	2	1	3
Cheyenne.....					2		1			1		
Clark.....					1			1				
Clay.....			1		9		1	2	1	1	1	3
Cloud.....					12		5	1	1	2		3
Coffey.....					6		2	1				3
Comanche.....					1		1					
Cowley.....	1		3		25		11	2	2	3	1	6
Crawford, <i>except</i>			3		20		11	1	1	2	2	3
Pittsburg.....					11	2	5	1	3			
Decatur.....			1		8		2	1				
Dickinson.....					15		10	3	1			1
Doniphan.....					9	1	2	1		3		2
Douglas, <i>except</i>			1		9		5		2			2
Lawrence.....			1		16		4	5		3		4
Edwards.....					5		5					
Elk.....					11	2	6	2		1		
Ellis.....					9		5	2		1		1
Ellsworth.....					7		4		2			1
Finney.....					1					1		
Ford.....					7	1	2	1	1			2
Franklin.....					15	1	5	5	1	2	1	
Geary.....			1		9		6	2				1
Gove.....					1		1					
Graham.....			1		3		1			1		1
Grant.....												
Gray.....					1		1					
Greeley.....												
Greenwood.....					10		5		1	2		2
Hamilton.....					1		1					
Harper.....					8	1	4		1			2
Harvey.....			1		17		5	6	1	3		2
Haskell.....												
Hodgeman.....												
Jackson.....					14	1	6	3	1			3
Jefferson.....					11		3	3	1	2		2
Jewell.....					13		6	4	1			2
Johnson.....					17	1	8	1	1			6
Kearny.....			1									1
Kingman.....			1		7		5	1		1		
Kiowa.....					1			1				
Labette, <i>except</i>			2		12	1	9	1	1			
Parsons.....					10		5	2	3			
Lane.....					1							1
Leavenworth, <i>except</i>			1		16	1	7		1	2	1	4
Leavenworth city.....			1		19	2	8	2	2	2		3
Lincoln.....					2		2					
Linn.....					21		6	3	6	1	1	4
Logan.....					1							1
Lyon.....					22		9	3	3	3		4
Marion.....			1		10	2	5	1		1	1	
Marshall.....			1		8		3	1	1			3
McPherson.....		1			17	2	8	2	2	2		1
Meade.....					2		1					1
Miami.....			2		10		7	1	1	1		
Mitchell.....			1		8		3	1		1	1	2

TABLE No. 8—CONTINUED.

TIES.	Disseminated tuber- culosis.....	Rickets.....	Syphilis.....	Gonococcus infection.	Cancer, all forms....	Cancer of Buccal cavity.....	Cancer of stomach and liver.....	Cancer of peritoneum, intestines, rectum..	Cancer of female genital organs.....	Cancer of breast.....	Cancer of skin.....	Cancer of other or un- specified organs.....
ery, except ille.....			1	1	11		4	1	2	1		3
dence.....			2		8		2	1	4	1		1
					4		1	2				1
					8			2				3
				1	7		4		3	2		8
					18		9	1				3
			1		1		1			2		1
					8		3	3	1	1		1
		1			12		8	2	1		1	1
					10		2			1		6
					7		1	2		1	1	3
					5		3		1		1	1
omie.....		2	1		2		1		1			6
					11		2		2	1		1
					1				1			1
ept			1		8		1			1		1
nson.....			1		12	1	4	2	2	2		3
					14		6	1		4		4
					15		8	2		1		3
					4		3	1			1	4
			1		11		4	1	1	1		8
			1		5		1					4
					1				1			1
					10		5		1	2		2
					11		5	3	1	1		1
					1		1					3
, except.....	1				5		2					8
a.....			2		47		18	7	6	4	1	11
except.....			1		12	1	4				1	6
a.....		1	4	1	53	2	16	9	9	4		13
					1							1
					8					1		2
			1		6		3			3		1
					4		3					
					16		8	2	1	1		4
					1		1					
see.....					9	1	6			1		1
					3		3					
ton.....		1			5		2			1		2
					16	1	6	1	1	4		3
l.....					4			2				2
tte, except...			4		14	1	4		7			2
s City.....	1		5	1	68	1	29	11	6	11		10

TABLE No. 8—CONTINUED.

COUNTIES.	Other tumors.....	Acute articular rheumatism.....	Chronic rheumatism..	Diabetes.....	Exophthalmic goitre..	Addison's disease.....	Leukemia.....	Anemia chlorosis.....	Other general diseases.	Alcoholism.....	Chronic lead poisoning.	Other chronic occu- pation poisoning....
Allen.....		1		1				1				
Anderson.....		1		6				1	1			
Atchison, <i>except</i>				1				1				
Atchison city.....		1	1	5	1			2	1			
Barber.....				1				1	1			
Barton.....		2	1	8				8	1	1		
Bourbon, <i>except</i>		1		8								
Fort Scott.....				8						2	1	
Brown.....		1		8			1	2	1			
Butler.....		1		1				2	1			
Chase.....		1						1				
Chautauqua.....			2	2				1		1		
Cherokee.....		6		5			2	2		1		1
Cheyenne.....												
Clark.....												
Clay.....		1										
Cloud.....		2		3	1				1			
Coffey.....			1	2				1				
Comanche.....		1			1							
Cowley.....		1	1	5	2		1	1	1			
Crawford, <i>except</i>		7	8	4	1		2	2		1		
Pittsburg.....				1	1		1	1		2		
Decatur.....			1	1			1			1		
Dickinson.....		2		1								
Doniphan.....			1				1			2		
Douglas, <i>except</i>				3								
Lawrence.....			1									
Edwards.....		1					1					
Elk.....		2			1							
Ellis.....		2		1			1			1		
Ellsworth.....				1	1		1					
Finney.....				1								
Ford.....				4			2			1		
Franklin.....	1		2	6	1	1	8	2				
Geary.....		1						1				
Gove.....		1										
Graham.....		1		1			1					
Grant.....												
Gray.....		1										
Greeley.....												
Greenwood.....		1	1	8				2		1		
Hamilton.....		1										
Harper.....			1	1								
Harvey.....		1		5	2			2			1	
Haskell.....												
Hodgeman.....												
Jackson.....		1	1	5								
Jefferson.....			1	1	1					1		
Jewell.....		1	2	5								
Johnson.....			1	5					1	2		
Kearny.....												
Kingman.....		1		1	1				1			
Kiowa.....								1				
Labette, <i>except</i>		1		4				2				1
Parsons.....		2		1	1		1					
Lane.....			1									
Leavenworth, <i>except</i>			1	1				1		1		
Leavenworth city.....		2	2	2				1		2		
Lincoln.....		1	2	2	1			1				
Linn.....										1		
Logan.....							1					
Lyon.....			2	2	1			1		1		
Marion.....		1	1	1				2		1		
Marshall.....		8	1	2								
McPherson.....		1		2				2				
Meade.....												
Miami.....		1		5				5				
Mitchell.....		1		2	1			1				

TABLE No. 8—CONTINUED.

NTIES.	Other tumors.....	Acute articular rheumatism.....	Chronic rheumatism..	Diabetes.....	Exophthalmic goitre..	Addison's disease.....	Leukemia.....	Anemia chlorosis.....	Other general diseases.	Alcoholism.....	Chronic lead poisoning.	Other chronic occu- pation poisoning...
nery, except ville.....		2	3	2				3		1		
ndence.....		2		1				1		1		
		1		8				2				
		2	1	6				1				
		1	1	3	2			1				
		1	1	2			2	1				
	1		2	1				1				
			1	4				1				
tomie.....		1	1	1				2	1			
		2		2								
cept inson.....		1	1	2			1	4				
		8		4				1	3			
		2	1	8				1				
		1	4	3	1				1	1		
		1	1	2		1						
		2		4	1			2	1	1		
k, except ta.....		1	1	8				4	1	4		
		5	1	9	2		5	4	1	4		
		1										
, except ta.....		6	2	7	2		4	6		5		
l.....												
l.....		4	1	2	1			1				
		1	1	2			1	3		1		
		2		5		1		2				
			1	1								
usee.....				1						1		
gton.....		1	1	4				1				
								2				
	1	8								1		1
n.....												
otte, except as City.....	1	1	1	3	1			1		2		
		7	2	10	4		1	2		7		

TABLE No. 8—CONTINUED.

COUNTIES.	Other chronic poisoning.....	Encephalitis.....	Meningitis.....	Locomotor ataxia.....	Acute anterior poliomyelitis.....	Other diseases of spinal cord.....	Cerebral hemorrhage, apoplexy.....	Softening of brain....	Paralysis without specified cause.....	General paralysis of the insane.....	Other forms of mental alienation.....	Epilepsy.....
Allen.....			2				17	1	11			
Anderson.....		1	1				5		2			1
Atchison, <i>except</i>	1	1		1			6		2			2
Atchison city.....			1	1			5	1	7		1	1
Barber.....					2		5	1	1			1
Barton.....		1	3				5		1	1	1	
Bourbon, <i>except</i>		1					8		8			
Fort Scott.....		2	2				10	1	7			1
Brown.....			3			1	10	2	2			1
Butler.....		1			1		15	1	7			
Chase.....			1		2		2		8		1	
Chautauqua.....	1		3	1			1		2		1	
Cherokee.....		4	2			2	21	2	12		1	2
Cheyenne.....									1			
Clark.....							1					
Clay.....			1				5		4	1		
Cloud.....		1	1				12		4		1	1
Coffey.....		1	1				9	1	5		1	
Comanche.....				1			2					
Cowley.....						2	23		20		3	2
Crawford, <i>except</i>		2	1	1		1	18	2	5			1
Pittsburg.....	2		2	2			12		2			
Decatur.....							8	1	1			1
Dickinson.....	1	2	2	2			10	1	4			
Doniphan.....			1				8		4			
Douglas, <i>except</i>			2		1		7	1			1	
Lawrence.....			2				20		4			
Edwards.....			2	1			4					
Elk.....		1					1		2			
Ellis.....		1	2	1			1	1		1		
Ellsworth.....			2				4	1	2	1		
Finney.....			1			1	7					
Ford.....		1	3	1			7	2	11		1	
Franklin.....		2	2	1			18	1	3			1
Geary.....			1			2	9		2		1	
Gove.....		1					8					
Graham.....		1							2			
Grant.....							1		1			
Gray.....			1									
Greeley.....									1			
Greenwood.....							17		6			
Hamilton.....												1
Harper.....		1	1				6	1	4		1	
Harvey.....	1	2	2				21		4			1
Haskell.....	1											
Hodgeman.....							1					
Jackson.....					1		13		2		1	
Jefferson.....		1	1			1	11	1	5			
Jewell.....		1				1	10	1	5			
Johnson.....			1	1			11	1	6			
Kearny.....												1
Kingman.....							9		1	1	2	
Kiowa.....							3					
Labette, <i>except</i>							8		5			2
Parsons.....		1		2			10	3	3		1	19
Lane.....												
Leavenworth, <i>except</i>			1	1			18		4	1	1	1
Leavenworth city.....		2	1				23	1	1		2	2
Lincoln.....							5		3			
Linn.....			1			1	11	2			2	
Logan.....		1							1			
Lyon.....		1				2	19		5			
Marion.....			1				9	1	5		1	2
Marshall.....		2	3			1	12	1	6			
McPherson.....		1	1				21	3	6			2
Meade.....		1	1						1			
Miami.....		1					20		18	6	26	6
Mitchell.....			1			1	9		7			

TABLE No. 8—CONTINUED.

TIES.	Other chronic poisoning.....	Encephalitis.....	Meningitis.....	Locomotor ataxia....	Acute anterior poliomyelitis.....	Other diseases of spinal cord.....	Cerebral hemorrhage, apoplexy.....	Softening of brain....	Paralysis without specified cause.....	General paralysis of the insane.....	Other forms of mental alienation.....	Epilepsy.....
ary, except		1	2		1		11	1	5			1
ille.....	1	1					5		8		1	1
dence.....		1				1	4		8		1	1
		1					9		5			
							7		8		1	
			1				15	2	8			2
							3	1	8			2
			1				7		1		1	1
	2		2			1	14		1	1	1	
		1	1			2	9		8	2		
		1	1				12		2		1	
		1	1				8		1		2	
omie.....		1	1				2		1		2	1
			2				10		8	1	2	
		1					4		4			
pt.		2					2		2			1
son.....	1	2	2	1			12		9			1
		1		1			18	1	1			1
		1	1	2			6		8		2	1
			1		1		7	1	4		1	1
			1				8		5			
					1		6	1			1	1
			1				1		1			1
			1				4		1			
							14	1	2			1
, except.			3			1	6		4			
.....		1	5	1	3	2	85	3	10		2	2
except.			2				9		2			
.....	1	3	4	3		1	51		33	12	20	3
			1				5					
			1				3					
		1	1				4		7			
			2				4		1			
							1					
		1	3	1		1	17		8			
			1				1		2			
ee.....			2				7		4	1		
ton.....	1	1	2	1			1					1
		1			1		12	2	5			
			1				7		1			
te, except	1	3	2				15	1	3			4
s City.....		6	12	1			48	1	9	1	3	5

TABLE No. 8—CONTINUED.

Es.	Convulsions, (non-puerperal) . . .	Convulsions of in- fants	Chorea	Neuralgia and neuritis.	Other diseases of nervous system . . .	Diseases of the eye and their annexa. .	Diseases of the ears.	Pericarditis	Acute endocarditis. .	Organic diseases of heart	Angina pectoris . . .	Diseases of arteries, atheroma, aneurism, etc.
y, except e ence	1	1 1 8	1		1			1		16 14 11 8	3 4	6 3 2
		1								17	1	2
	1	1						1		11		4
										1		1
				1						12	1	3
	1									21	2	7
	1									13	2	3
								1		10		
			1					1	1	4	1	
nie					1					15		1
							1			18	2	3
										10		2
ot ion		1		1						7		
										11	1	4
					1					11	2	
		2							1	11		4
										12	1	2
										18	2	2
										8		1
										6		
		1								7		
										10	1	2
except		1							1	1		
		1						1	4	10		2
										47	8	19
except										2		
		3							4	21	2	3
										87	4	17
		1								8		1
										4		1
									1	12		3
										14		3
		1								1		
			1	1					1	22	7	8
										6		
ee										2		
on		1								14		4
										19	2	4
		2			1							
		1								11	1	2
te, except . . .					2					3		3
City		9	1		1		3	2	3	27 89	1	22

TABLE No. 8—CONTINUED.

COUNTIES.	Embolism and thrombosis.....	Diseases of the veins.	Diseases of lym- phatic system.....	Hemorrhage and other diseases of circulatory system.....	Diseases of nasal fossae.....	Disease of the larynx.	Disease of the thyroid body.....	Acute bronchitis.....	Chronic bronchitis..	Broncho-pneumonia..	Pneumonia.....	Pleurisy.....
Allen.....								2	1	11	19	
Anderson.....					1			2	1	8	8	
Atchison, <i>except</i> Atchison city.....	1	1						1	1	6	10	
Barber.....	1							1	1	1	5	1
Barton.....	8		1							2	8	
Bourbon, <i>except</i> Fort Scott.....	1								2	3	10	
Brown.....	1							8	1	8	3	
Butler.....	2	1						2	1	2	5	
Chase.....										1	2	
Chautauqua.....									1		3	
Cherokee.....							1	4	8	20	27	1
Cheyenne.....											4	
Clark.....											1	
Clay.....								2	2	4	6	
Cloud.....								2		6	9	
Coffey.....								2	1	2	11	
Comanche.....											1	
Cowley.....	2								2	6	17	2
Crawford, <i>except</i> Pittsburg.....	1			1				4	2	3	15	
Decatur.....	2							1	1	4	6	
Dickinson.....	1							1		3	9	1
Doniphan.....								1	1	2	3	
Douglas, <i>except</i> Lawrence.....	1	1						1	2	1	2	1
Edwards.....										2	3	
Elk.....								1			4	1
Ellis.....	1								3	7	4	
Ellsworth.....									1	1	2	
Finney.....								2		1		
Ford.....			1					2	1	5	1	
Franklin.....	2							3	1	9	11	1
Geary.....										1	12	
Gove.....										1	1	
Graham.....				1				3			1	
Grant.....										1		
Gray.....											1	
Greeley.....												
Greenwood.....									1	2	5	
Hamilton.....									1	2		
Harper.....										4	8	
Harvey.....	4								1	3	11	
Haskell.....										2	1	
Hodgeman.....								1			2	
Jackson.....						1		1		5	5	
Jefferson.....								2	1	3	6	1
Jewell.....								1		6	9	
Johnson.....	2								2	4	11	
Kearny.....												
Kingman.....								1	1	7	4	
Kiowa.....										2	1	
Labette, <i>except</i> Parsons.....	1					1	1		1	8	8	2
Lane.....										10	11	
Leavenworth, <i>except</i> Leavenworth city,	1								1	5	10	
Lincoln.....	1					1		3	3	10	20	1
Linn.....						1		1	3	4	4	
Logan.....										1		
Lyon.....	2							1	2	4	16	
Marion.....										4	4	
Marshall.....	2					1		3		6	7	
McPherson.....								1	1	4	10	1
Meade.....	1							2			2	
Miami.....	1									6	27	1
Mitchell.....	2			1						1	2	

TABLE No. 8—CONTINUED.

	Pleurisy.....	Pneumonia.....	Broncho-pneumonia..	Chronic bronchitis...	Acute bronchitis.....	Disease of the thyroid body.....	Disease of the larynx.	Diseases of nasal fossae.....	Hemorrhage and other diseases of circulatory system.....	Diseases of lym- phatic system.....	Diseases of the veins.	Embolism and thrombosis.....
except nce.....	1	8 8 4 7	8 5 5 2	1 1 1	1		1			1		1 1 1
		4 5 2 5 8 4 8 8 4 9 2 1 8 7 8 9 7 8 3 1 6	1 6 1 1 8 5 2 4 1 8 1 4 5 3 6 7 4 8 8 6 6	2	1 1 1 8 1 1 2		1				1 1	4
ie.....				8	2			1				
n.....					1 1 1 2 1		1					4
				2 2	2	1				1		2
cept.....		3	4	8		1					1	5
cept.....		17 1 9	18 2 5	1	2 5		1		2			4 1
		48 1 8 8 4	81 2									
		2 18 1 2 5	4 8	1 6 1 1 1		1			1			1
		7		2	1							
		13 2	4 1 4 2 8	4	4	1	1					
except ity.....	2	88	47	10	10	1	1			1	1	8

TABLE No. 8—CONTINUED.

COUNTIES.	Pulmonary congestion, pulmonary apoplexy.	Gangrene of lung.....	Asthma.....	Pulmonary emphy- sema.....	Other diseases of the respiratory system...	Diseases of mouth and anus.....	Disease of the pharynx.....	Diseases of the ces- phagus.....	Ulcer of stomach.....	Other diseases of the stomach.....	Diarrhea and enteritis..... (2 years and over.)	Diarrhea and enteritis..... (Under 2 years.)	Diarrhea and enteritis..... (2 years and over.)
Allen.....	2		1		1				1	5	11	4	4
Anderson.....			1							2	2	3	3
Atchison, <i>except</i> Atchison city.....										1	4	1	1
Barber.....	1									2	2	2	2
Barton.....			1							1	15	3	3
Bourbon, <i>except</i> Fort Scott.....	1								2	3	4	4	4
Brown.....	1		1	1							19	5	5
Butler.....									1	2	14	2	2
Chase.....	1		1							1	2	2	2
Chautauqua.....										4	4	4	4
Cherokee.....	1		3				2	1	3	6	35	12	12
Cheyenne.....	1										1	1	1
Clark.....										1		2	2
Clay.....			1							1	3	4	4
Cloud.....							1		1	2	15	6	6
Coffey.....	2		1	2					1	1	4	3	3
Comanche.....											7		
Cowley.....	2		1	1					3	4	12	16	16
Crawford, <i>except</i> Pittsburg.....			5	1				1	2	4	22	8	8
Decatur.....										3	16	4	4
Dickinson.....	1		1						3	1	6	1	5
Doniphan.....	1						1			3	6	4	4
Douglas, <i>except</i> Lawrence.....	2		1						1	3	4	1	4
Edwards.....									2		6	4	4
Elk.....			1								3	1	3
Ellis.....									3		7	3	3
Ellsworth.....					1					1	8	2	4
Finney.....											4	2	2
Ford.....									1	1	8	6	6
Franklin.....									3	1	13	3	3
Geary.....										1	3	1	1
Gove.....										1	1		
Graham.....	1										8	3	3
Grant.....													
Gray.....											5	1	1
Greeley.....													
Greenwood.....	1		1								4	2	2
Hamilton.....										1	1		
Harper.....	1		1				2				5	8	8
Harvey.....	1		1							3	7	3	3
Haskell.....										1	1	1	1
Hodgeman.....										2	1	3	3
Jackson.....									2	2	7	3	3
Jefferson.....											6	3	3
Jewell.....										4	5	5	5
Johnson.....	1				1					1	7	9	9
Kearny.....													
Kingman.....											9	2	2
Kiowa.....			1							2	3	7	7
Labette, <i>except</i> Parsons.....	1									3	7	3	3
Lane.....											3	1	1
Leavenworth, <i>except</i> Leavenworth city.....	1			1	1		1		1	2	3	3	3
Lincoln.....										6	5	6	6
inn.....	1				1					2	1	6	6
Logan.....											2		
Lyon.....	2							1	2	4	11	2	2
Marion.....	2								2		9	6	6
Marshall.....				1						1	10	5	5
McPherson.....									2	1	8	3	3
Meade.....										1	3	1	1
Miami.....									1	1	3	7	7
Mitchell.....					1					1	5	4	4

TABLE No. 8—CONTINUED.

Diarrhea and enteritis. (2 years and over.)	Diarrhea and enteritis. (Under 2 years.)	Other diseases of the stomach.	Ulcer of stomach.	Diseases of the oesophagus.	Disease of the pharynx.	Diseases of mouth and annexa.	Other diseases of the respiratory system.	Pulmonary emphysema.	Asthma.	Gangrene of lung.	Pulmonary congestion, pulmonary apoplexy.
6	8	3	1		1				1		
4	15	3	1						1		
1	12	2							1		1
1	1										
6	11	1	2					1	2	1	2
9	7	1									
6	4	4	1			1					3
4	6		2								
5	8	1									
	4										1
	1				1						3
4	6										1
3	9								1		
4	8	1							1		
4	9							1			
4	8	2							1		
3	12	2		1					1		
2	4	3					1		2		
2	5								1		
3	4	1									2
3	7	1									1
4	4	3	1		1						1
										1	
6	6	1								1	
10	27	5									1
	2		1								
4	6	1									1
16	14	6							1		6
1	1										
2	2										
7	6				1						
1	8	3			1						
6	18	1	5								
1											
1	2	1									
1	2	1	1								
12	14	3	2								
											1
4	14	1									
1	5	1									
3	6	1					1				8
24	55	6	8			1		1		1	4

TABLE No. 8—CONTINUED.

COUNTIES.	Ankylostomiasis.....	Intestinal parasites...	Appendicitis.....	Hernia.....	Intestinal obstruction.	Other diseases of the intestines.....	Acute yellow atrophy of the liver.....	Cirrhosis of the liver..	Biliary calculi.....	Other diseases of the liver.....	Diseases of the spleen.	Simple peritonitis....
Allen.....			3	4	1			1	1	6		1
Anderson.....			1					1		2		1
Atchison, <i>except</i>			1	1				1		1		1
Atchison city.....			7		1			4		1		
Barber.....					1					1		1
Barton.....			4	1	1	2		2	2	3		1
Bourbon, <i>except</i>								1	1	3		1
Fort Scott.....								1		4		
Brown.....			3		2					2		
Butler.....			3		1			2	1	1		
Chase.....					2							
Chautauqua.....					1			2		1		
Cherokee.....			3		3		1	3	1	6		
Cheyenne.....					1							1
Clark.....												
Clay.....			3	1	2				3	1		
Cloud.....			4		5			4	1	1		
Coffey.....			2		1				2	2		
Comanche.....												
Cowley.....			3	1	3			2		6		
Crawford, <i>except</i>			4	1	3			5	2	5		
Pittsburg.....			4	1	2	1		3	1	3		1
Decatur.....												
Dickinson.....			1	2	1			3		2		
Doniphan.....				1	5	2		1		1		
Douglas, <i>except</i>			1			1				2		
Lawrence.....			3		1			3		3		
Edwards.....				1	1							1
Elk.....			2		2	1		1		2		
Ellis.....			5		1			3				
Ellsworth.....			2		1			1		1		
Finney.....			1							1		
Ford.....			2		2				1	1		
Franklin.....				1	4			2		4		
Geary.....			1						1	1		
Gove.....				1								
Graham.....					1					1		
Grant.....												
Gray.....					2			1		1		
Greeley.....												
Greenwood.....			1		3					1		1
Hamilton.....				1								
Harper.....			1		3					2		
Harvey.....			3	1	4			3	2	4		1
Haskell.....					1							
Hodgeman.....												
Jackson.....					2			1	1	3		1
Jefferson.....				1	1				1	1		
Jewell.....			2		2			2		1		
Johnson.....			1		1	1			1		1	1
Kearny.....					1							
Kingman.....			2				1	1		1		
Kiowa.....			1	1						1		
Labette, <i>except</i>			2	1					2	1		1
Parsons.....			2					2		1		2
Lane.....												
Leavenworth, <i>except</i>			2		3		1	1				
Leavenworth city.....			3		4			1	2	2		
Lincoln.....			1	1	1			2				
Linn.....			1		1		1			4		
Logan.....					1							
Lyon.....			4		1	1				1		
Marion.....			2	2	3			2		1		
Marshall.....				1	2	1		1	1	2		
McPherson.....			2	2	5		1	2	2	1		
Meade.....			2							1		
Miami.....			2		1			2		1		
Mitchell.....			1		1			1				

TABLE No. 8—CONTINUED.

TIES.	Ankylostomiasis.....	Intestinal parasites...	Appendicitis.....	Hernia.....	Intestinal obstruction.	Other diseases of the intestines.....	Acute yellow atrophy of the liver.....	Cirrhosis of the liver..	Biliary calculi.....	Other diseases of the liver.....	Diseases of the spleen.	Simple peritonitis....
ery, except	1	8	.....	.....	8	2	2	.....	.....
ille.	5	.....	1	.....	.....	1	.....	2	.....	.....
dence.	2	.....	8	.....	.....	2	.....	2	.....	.....
.....	1	1	4	.....	.....	1	.....	.....	.....	1
.....	4	.....	2	.....	.....	.....	1	1	.....	.....
.....	4	.....	2	.....	1	8	.....	8	1	.....
.....	4	1	1	.....	.....	1	1	1	.....	1
.....	4	1	2	.....	.....	2	.....	2	1	.....
.....	4	2	4	.....	.....	.....	.....	.....	.....	.....
.....	2	.....	.....	.....	.....	1
.....	1	.....	.....	.....	.....	1	1	2	.....	1
.....	2	.....	.....	.....	.....	4	2	2	2	2
mie.	2	.....	1	.....	.....	.....	1	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	2	.....	.....
ept.	1	1	.....	.....	.....	.....	.....	2	.....	.....
nson.	1	.....	8	1	8	2	.....	1	2	.....	.....	2
.....	1	.....	.....	2	2	.....	.....	.....
.....	1	2	4	.....	.....	.....	.....	1	.....	1
.....	1	.....	1	.....	.....	.....	.....	8	.....	1
.....	1	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	1	1	.....	1	.....	.....
.....	2	.....	4	1	2	.....	.....	8	.....	1
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	1	.....	1	.....	2
.....	4	8	7	.....	3
.....	16	1	10	1	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	2	.....	.....	1
.....	14	1	2	.....	1	7	8	5	.....	6
.....	1	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	4	.....	.....	.....	1	1	1	2	.....	.....
.....	1	.....	.....	1	.....	.....	.....	1	.....	.....
.....
.....	6	1	2	.....	.....	2	2	2	.....	1
.....	1	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....
ee.	2	.....	1	.....	.....	8	.....	.....	.....	.....
ton.	1	.....	1	.....	8	.....	1
.....	4	.....	2	.....	1	1	1	4	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	2	.....	.....
tte, except.	1	.....	2	.....	.....	.....	1	2	.....	.....
s City.	12	.....	14	.....	2	7	8	11	1	5

TABLE No. 8—CONTINUED.

COUNTIES.	Other diseases of the digestive system.....	Acute nephritis.....	Bright's disease.....	Other diseases of the kidneys and annera.	Diseases of the bladder.....	Diseases of the urethra, urinary abscess, etc.....	Diseases of the prostate.....	Nonvenereal disease of the male genital organs.....	Uterine hemorrhage.. (Nonpuerperal.)	Uterine tumor (Noncancerous.)	Other diseases of the uterus.....	Cysts and other tumor of ovary.....
Allen.....	1		6		1		2			1		1
Anderson.....			6		1		1					
Atchison, <i>except</i> Atchison city.....			11									
Barber.....		2	4				1					
Barton.....		2	6	1			1					
Bourbon, <i>except</i> Fort Scott.....		1	5									
Brown.....		1	14	1	2		1			1		
Butler.....			11	1	1	1	1					
Chase.....			7		1		2					
Chautauqua.....			7									
Cherokee.....		3	40		2					1		
Cheyenne.....												
Clark.....			3				1					
Clay.....		3	8				2					
Cloud.....		2	18		1		1			1		
Coffey.....		1	6									
Comanche.....			1				1					
Cowley.....		1	29	1	1		4				1	1
Crawford, <i>except</i> Pittsburg.....			29				1				1	
Decatur.....		2	24		2							
Decatur.....			2									
Dickinson.....		2	17		1		2					
Doniphan.....		1	11		2		3					
Douglas, <i>except</i> Lawrence.....		1	10									
Edwards.....		2	9	1			1				1	
Elk.....			3					1				
Ellis.....		2	8	1							1	
Ellsworth.....		1	4		1						1	
Finney.....		1	7									
Ford.....			2				1			1		
Franklin.....			11	1			4					
Geary.....			23				1					
Gove.....		1	10		1		1					
Graham.....			5									
Grant.....			3				1					
Gray.....												
Greeley.....												
Greenwood.....		2	13									
Hamilton.....												
Harper.....			5				2					
Harvey.....		1	14		3		5				2	
Haskell.....												
Hodgeman.....			1									
Jackson.....		1	8									
Jefferson.....			6		1							
Jewell.....			10									
Johnson.....			12		1		2					
Kearny.....												
Kingman.....		1	5									
Kiowa.....			1									
Labette, <i>except</i> Parsons.....		1	10		2		1					1
Lane.....		1	10				2			1		
Leavenworth, <i>except</i> Leavenworth city.....		1	1				1					1
Lincoln.....		3	8		2		1				1	
Linn.....			20		2							
Linn.....		1	5		2		1					1
Linn.....			7	1	2							
Logan.....			1									
Lyon.....			20				1					
Marion.....			10									
Marshall.....			22	1			1					1
McPherson.....			10				8					
Meade.....			1									
Miami.....			1		1					1	1	
Mitchell.....			15		1		1					
Mitchell.....			4		1							

TABLE No. 8—CONTINUED.

COUNTIES.	Other diseases of the digestive system.....	Acute nephritis.....	Bright's disease.....	Other diseases of the kidneys and annexa.	Diseases of the bladder.....	Diseases of the urethra, urinary abscess, etc.....	Diseases of the prostate.....	Nonvenereal disease of the male genital organs.....	Uterine hemorrhage.. (Nonpuerperal.)	Uterine tumor..... (Noncancerous.)	Other diseases of the uterus.....	Cysts and other tumor of ovary.....
Montgomery, except Coffeyville.....		1	10		3		3					
Independence.....		4	10		1		4					
Morris.....			9				5					
Morton.....			10									
Osage.....		3	8				2					
Osborne.....			20							1		
Osage.....			1									
Osage.....			9				1					
Osage.....			12									
Osage.....			6									
Osage.....			4									
Osage.....			4		1						1	
Osage.....		1	10								1	
Osage.....		1	10				2					
Osage.....			5									
Osage.....			1									
Osage, except.....			11	1			4			1		
Osage.....		1	12	1			2					
Osage.....			9		1		1				1	
Osage.....			9									
Osage.....		1	4							1		
Osage.....			12								1	
Osage.....					1							
Osage.....		1	2				1					
Osage.....			6	1	2		1					
Osage.....			1									
Osage, except.....		1	10				1					
Osage.....		1	56	1	3		10			9	3	2
Osage.....		1	2									
Osage, except.....			8									
Osage.....		4	71	2			3				1	
Osage.....			2									
Osage.....			3		2		1					
Osage.....		1	9				1					
Osage.....		2	5									
Osage.....			1									
Osage.....			3									
Osage.....	1	1	28		1		1					
Osage.....			5									
Osage.....			2									
Osage.....			2		1		1		1			
Osage.....												
Osage.....		1	6				1			1		
Osage.....			1									
Osage.....	1		4				1					
Osage.....			8				1					
Osage, except.....			26		2		1			1		1
Osage City.....		15	83	3	1		5			7		2

TABLE No. 8--CONTINUED

Allen			1		1	2			1				1
Anderson					1				1				1
Atchison, except Atchison city							1		1				
Barber					1								
Barton	1				2	1							
Bourbon, except Fort Scott	1				2				1				
Brown						1			1				
Butler					1	1							
Chase				1									
Chautauque													
Cherokee	2	1			5	1			1				
Cheyenne						1							
Clark													
Clay													
Cloud	1		2										
Coffey									1				
Comanche					2		1						
Cowley	1	1	1		2			1	1				1
Crawford, except Pittsburg	2		2		5	1			2	1			
Decatur				3	2				1				
Dickinson		1		1				1	2				
Doniphan													
Douglas, except Lawrence						1			2		1		
Edwards		1	1			1			1				
Elk					2				1				
Ellis				1	1								
Ellsworth				1			1		1				
Finney						1							
Ford	1				1	1							
Franklin		1				3							
Geary									1				
Gove				1									
Graham					1								
Grant													
Gray													
Greeley													
Greenwood				1		1							
Hamilton													
Harper			1		2					1			
Harvey		1			1	1			1		1		
Haskell													
Hodgeman					1								
Jackson										1			
Jefferson							1				1		
Jewell		1				1		1	1				
Johnson					1	1			2				1
Kearny													
Kingman		1											
Kiowa		1			1	1							
Labette, except Parsons	1		2	1		1							
Lane				1	2	1							
Leavenworth, except Leavenworth city			1				1		1				1
Lincoln				1					1				
Linn					1				1				
Logan					1								
Lyon		2			1				1				
Marion					1	2			1				
Marshall													
McPherson					1				1				1
Meade					1								
Miami			1					2	1				
Mitchell					1	1	1						

TABLE No. 8—CONTINUED.

COUNTIES.	Diseases of the bones.	Diseases of the joints.	Other diseases of the organs of locomotion.	Congenital malformation.....	Premature birth.....	Congenital debility...	Other diseases peculiar to early infancy.	Lack of care.....	Senility.....	Suicides, total.....	Suicide by poisoning..	Suicide by hanging...
Allen.....				1	3	10	3		19	2	1	
Anderson.....				1	5	1	1		10	1		
Atchison, <i>except</i>				1	1	7			3	2	1	
Atchison city.....				1	3	8			7	3	1	1
Barber.....				2	4	6			10	2		1
Barton.....	2			1	4	7	1		10	2		
Bourbon, <i>except</i>				3	4	3			7	1	1	
Fort Scott.....					3	7			12	1		
Brown.....	1			2	5	9	1	2	13	6	2	
Butler.....	1			6	9	6	2		8	2		
Chase.....					2	2			2			
Chautauqua.....				2	5	2	1		3	3	1	
Cherokee.....				3	20	20	4		12	6	5	
Cheyenne.....				1	1	1			3			
Clark.....					5	3			2	1		
Clay.....				4	7	7			4	1		
Cloud.....		1		4	7	4	1	1	9	4	1	2
Coffey.....					4	2			10	2		1
Comanche.....					1	2			1			
Cowley.....				2	15	7	3		16	5	4	1
Crawford, <i>except</i>	1			4	10	21	4	2	9	4	2	1
Pittsburg.....				4	10	8	1	1	8	4	2	
Decatur.....					1	1	1		4			
Dickinson.....	1			6	4	11	3		9	5	1	1
Doniphan.....				4	4	6	2		10			
Douglas, <i>except</i>				1	2	3			13	1		
Lawrence.....				2	3	3	2		15	1		
Edwards.....				1	3	5	2		2			
Elk.....					3	1	2		3			
Ellis.....	1				6	9	3		1	1	1	
Ellsworth.....					4	4			5	1		
Finney.....						2			2			
Ford.....	1			3	4	4		1	8			
Franklin.....	1			2	3	5	1		4	3	1	
Geary.....				2	4	1			4	1		1
Gove.....					1	1			1	2		1
Graham.....				1	5		2		2	1		
Grant.....									1	1		1
Gray.....						1						
Greeley.....						1		1				
Greenwood.....					2	4			6	3	2	
Hamilton.....					2	1			1			
Harper.....				1	1	3			7	2		1
Harvey.....				5	8	3	3		6			
Haskell.....						1			1			
Hodgeman.....				1	3	1	1					
Jackson.....				4	8	6			8			
Jefferson.....				4	8	5			7	1		1
Jewell.....	1	1		5	3	8		1	9	1	1	
Johnson.....	1				4	1	1		11	2		
Kearny.....				1								
Kingman.....					5	3	3		7	2		1
Kiowa.....					5	3		1	2			
Labette, <i>except</i>				2	6	4			12			
Parsons.....	1			4	7	1	1	2	3			
Lane.....									2			
Leavenworth, <i>except</i>				1	10	3		1	10	2	1	
Leavenworth city.....				3	12	5	1	1	23	1		1
Lincoln.....				3	3	2			5			
Linn.....				1	2	2			9	1		
Logan.....									3			
Lyon.....	1			2	7	2	1		16	1		
Marion.....			1	2	10	12	2		13	2		1
Marshall.....				4	13	9	1	1	13	2	2	
McPherson.....				2	6	7			23	1	1	
Meade.....					1	1	1		2			
Miami.....				2	3	2	1		18	2		1
Mitchell.....					6	3			10	1		

TABLE No. 8--CONTINUED.

[illegible]

TABLE No. 8—CONTINUED.

COUNTIES.	Suicide by drowning..	Suicide by firearms...	Suicide by cutting or piercing.....	Suicide by crushing...	Other suicides.....	Accidents, totals.....	Poisoning by food.....	Other acute poisoning.	Conflagration.....	Burns.....	Absorption of deleterious gases.....	Accidental drowning..
Allen.....		1				11	1	2			1	1
Anderson.....					1	4						2
Atchison, <i>except</i>		1				9				1		2
Atchison city.....			1			10	1			1		1
Barber.....		1				8					1	
Barton.....		2				15				2		1
Bourbon, <i>except</i>						6				1		
Fort Scott.....	1					9	1	1				2
Brown.....	1	3				10				2	1	
Butler.....		2				10	1			1		1
Chase.....						7		1				1
Chautauqua.....		2				3						
Cherokee.....		1				88		1	1	1	1	4
Cheyenne.....						1				1		
Clark.....		1				1						
Clay.....		1				7		1				3
Cloud.....			1			14	1			2		4
Coffey.....	1					8		1				
Comanche.....						4						
Cowley.....						30		2		5		2
Crawford, <i>except</i>		1				43		1		1		1
Pittsburg.....		2				26		2		3		
Decatur.....						2				1		
Dickinson.....		1	1	1		8		1		1		
Doniphan.....						6				2		
Douglas, <i>except</i>			1			4						
Lawrence.....		1				12		1		1		2
Edwards.....						3						
Elk.....						5						
Ellis.....						7			1	1	1	
Ellsworth.....		1				12				1	1	1
Finney.....												
Ford.....						14	2	1	2			
Franklin.....	1	1				11		1		1		1
Geary.....						5		1				
Gove.....					1	3						1
Graham.....		1				3						1
Grant.....												
Gray.....						3						
Greeley.....												
Greenwood.....		1				8	2					1
Hamilton.....						2				1		
Harper.....	1					10		1				
Harvey.....						20		2	1	3		1
Haskell.....						1						1
Hodgeman.....						1						
Jackson.....						5						2
Jefferson.....						11	1					5
Jewell.....						4						
Johnson.....		1	1			15						1
Kearny.....						5						
Kingman.....					1	2						
Kiowa.....						2						
Labette, <i>except</i>						9				1		5
Parsons.....						14				1		1
Lane.....						1		1				
Leavenworth, <i>except</i>		1				11		1				
Leavenworth city.....						17	1	3		1	3	
Lincoln.....						4						2
Linn.....		1				6					1	
Logan.....						3						2
Lyon.....			1			8				1		
Marion.....			1			19				2	1	1
Marshall.....						11				1	1	1
McPherson.....						7						
Meade.....						2						1
Miami.....		1				10						2
Mitchell.....		1				13						2

TABLE No. 8—CONTINUED.

COUNTIES.	Suicide by drowning.	Suicide by firearms.	Suicide by cutting or piercing.	Suicide by crushing.	Other suicides.	Accidents, totals.	Poisoning by food.	Other acute poisoning.	Conflagration.	Burns.	Absorption of deleterious gases.	Accidental drowning.
gomery, except						18		2		2		3
eyville.		2				6						
pendence.						12	1			1	2	
						4		1				
n.						9					1	1
ha.	1	1				19	1					2
o.	2					2						
						8				1	1	
l.		1				9				1		
le.					1	2						1
l.		1				3						
e.						9						1
s.						5						
atomie.						10		1		2		
		2				10				1		
s.		1			1	4			1			1
except		1				9		3				1
hinson.		2	1			8				2		
ic.	1					9				1		1
		1				6				1		
		1				12	1	2		2		
						7				1		
						7	1					3
		1			1	6				1		
						8		1		2		
rk, except.						5						1
ita.		3				35	4	1				
						1						1
e, except		1				4				1		
ca.		1				35	2	4		3	2	2
l.						2						1
l.						5						1
						5		1				
						2						2
		2	1		1	17	2			2		2
						9		1		1		
see					1	2	1					
ton.		1				4						
						2						
						4						
		4				2				1		
		2				10	1			1		
te, except.	1	2				5				1		
City.	2	8			1	13	2	2	1	1	1	5
						72				7	2	

TABLE No. 8—CONTINUED.

COUNTIES.	Traumatism by fire-arms.....	Traumatism by cutting or piercing.....	Traumatism by fall..	Traumatism in mines and quarries.....	Traumatism by machines.....	Railroad accidents....	Street-car accidents..	Automobile accidents.	Injury by other vehicles.....	Landslides and other crushing.....	Injury by animals....	Excessive cold.....
Amery, except Lyville.....	4		3		1		1		1		1	
Andover.....	1		2			1		1			1	
Antigo.....	1		1		1	1						
Ashtabula.....			8									
Ashwaubenish.....			4		2	4					1	
Aurora.....			1								1	
Austin.....	1		2	1		2						
Baraboo.....			2			1					1	
Barre.....	1		1					2			1	
Barron.....			2			1		1			1	
Bassett.....			1			5						
Bay View.....	2					2		1				
Beaumont.....			2			1					1	
Bellevue.....			1			1		1				
Bellows Falls.....	1		2			2		2				
Benson.....					1			1	1			
Bethel.....						1		2				
Bethesda.....						1	1				1	
Bethesda, except Lyville.....	1		2			1	1				2	
Bethesda, except Lyville.....	1		4			8	1	6	1		1	
Bethesda, except Lyville.....			1							2		
Bethesda, except Lyville.....	1		1			7		4		1		1
Bethesda, except Lyville.....			1									
Bethesda, except Lyville.....			1			1			1			
Bethesda, except Lyville.....			1			1		1				
Bethesda, except Lyville.....	1		1		1	2			1			
Bethesda, except Lyville.....			1			2						
Bethesda, except Lyville.....						1					2	
Bethesda, except Lyville.....	1		1									
Bethesda, except Lyville.....	1		1									
Bethesda, except Lyville.....			1		1	1					2	
Bethesda, except Lyville.....	1		1	1		5						
Bethesda, except Lyville.....	4		18		8	17	1	1		8	1	

TABLE No. 8—CONTINUED.

COUNTIES.	Effects of heat.....	Lightning.....	Electricity.....	Fractures..... (Cause not specified.)	Other external causes.	Homicide, total.....	Homicide by firearms.	Homicide by cutting or piercing.....	Homicide by other means.....	Ill-defined organic dis- eases.....	Sudden death.....	Cause of death not specified or ill-defined
Allen.....	1			2		2	2			1	1	1
Anderson.....					1							2
Atchison, <i>except</i>					1							2
Atchison city.....				1		1	1			1		2
Barber.....						1	1			1		1
Barton.....	2			1	2	3	1		2		2	4
Bourbon, <i>except</i>		1		1								1
Fort Scott.....		1										2
Brown.....						1	1					2
Butler.....				2		1	1			1		1
Chase.....					1	1		1				1
Chautauqua.....					1							1
Cherokee.....	2		1	2	5	4	3		1	6	1	3
Cheyenne.....						1			1			
Clark.....					1							
Clay.....	1											
Cloud.....					1						1	
Coffey.....				1	2						1	
Comanche.....	1											1
Cowley.....	2		1	2	1	2	1		1			2
Crawford, <i>except</i>	1	1	1	2		6	5	1		2		6
Pittsburg.....			2	2		3	3			1		1
Decatur.....				1		1	1					1
Dickinson.....	3			1							1	6
Doniphan.....	1					2	2					1
Douglas, <i>except</i>					1							
Lawrence.....				1		1		1		1		2
Edwards.....				1	1	1	1					
Elk.....				1	1					1		3
Ellis.....	1											3
Ellsworth.....	1	1			1							
Finney.....						2	2					2
Ford.....	1	2		1	1	2	2					2
Franklin.....	1				1							1
Geary.....	1					1	1				1	2
Gove.....												
Graham.....					1							2
Grant.....												1
Gray.....					1							
Greeley.....												
Greenwood.....						1	1					2
Hamilton.....												1
Harper.....	1				1							2
Harvey.....	1			3		1		1				4
Haskell.....												
Hodgeman.....												
Jackson.....				1		1		1				
Jefferson.....												
Jewell.....			2									3
Johnson.....		1	1	2		1	1					
Kearny.....		1										
Kingman.....	1				1							1
Kiowa.....												3
Labette, <i>except</i>						1	1				1	1
Parsons.....	3			1		2	2					
Lane.....												1
Leavenworth, <i>except</i>	1					1			1	1		1
Leavenworth city.....	2		1		1	2	1		1	1		1
Lincoln.....	1				1							1
Linn.....				1		1	1					1
Logan.....										1		
Lyon.....					1	2	1	1				1
Marion.....	1	2				1			1			4
Marshall.....		1		1	1	1		1				1
McPherson.....		1			2					2	2	3
Meade.....						1	1					
Miami.....					2	2	2					
Mitchell.....			1	1	4						1	1

TABLE No. 8—CONCLUDED.

CAUSES.	Cause of death not specified or ill-defined.	Sudden death.	Ill-defined organic diseases.	Homicide by other means.	Homicide by cutting or piercing.	Homicide by firearms.	Homicide, total.	Other external causes.	Fractures. (Cause not specified.)	Electricity.	Lightning.	Effects of heat.
ery, except ille.	2	2	2			2	2			1		1
idence.			1			2	2		2			
	10				1			3	4			
	1	1						1				
	1								1			1
	1	1				2	2	1				
	17							2	1	1		
omie.	1		1		1			1				
	1		1					1				
ept			1		1			1	2			
nson.	1	1	1	1		2	3	3	1			1
	2		2					1	2			
		1	1					2	1		1	
			3					1				
	2							1	1			2
	1							1				
, except.						1	1		5	2		
a.	3			1		6	7	4				
	1											
, except												
a.	3				1	3	4	3	3			1
								1	1			
		1				1	1		2			
	2											
	1							2	3		1	
	1					1	1	1			1	
see						1					1	
ton.	2	1						1				
	2											
	1							3	1			
					1				1			
n.	3									2		
tte, except.	1					2	2					
is City.	2					9	13	2	4			4

TABLE No. 9. Showing the causes of death by counties, 1915.

COUNTIES.	Typhoid fever	Malaria	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria and croup	Influenza	Dysentery	Erysipelas	Purulent infection and septicemia	Rabies
Allen	7			2		2	5	4	1	1		
Anderson					1	2	1	10		2	1	
Atchison, except	3	1				2	1	1				
Atchison city	3				1		2	1			1	
Barber	1						5	1			2	
Barton					1	3	4	6		1	1	
Bourbon, except	1	1		1		1	1			1	1	
Fort Scott	3						1	1				
Brown	1			1	1	5	3	3				
Butler				2	1		1	2			1	
Chase						3					1	
Chautauqua							4	2				
Cherokee	10		2	2		10	16	9	1		2	
Cheyenne						1	1					
Clark							1					
Clay	1					1		4		1	1	
Cloud				1			3	3			2	
Coffey	3					4		2		1	2	
Comanche												
Cowley	3			4	2	6	3	5		2	3	
Crawford, except	3	2		4	1	12	10	9			5	
Pittsburg	6			1		1	5			1		
Decatur							1	1				
Dickinson	1	1	1			3		5			1	
Doniphan	1	2				1	2				3	
Douglas, except							4	3	1		2	
Lawrence	1					2		3			2	
Edwards	1					2	1	1				
Elk	1					1	3	3				
Ellis				2	1	3	2	1				
Ellsworth							1				3	
Finney	1					2		2		1		
Ford	5	1			1	4	1	1			1	
Franklin	4	1				6	4	5			2	
Geary										1		
Gove						1		1		1		
Graham	3			1	1	1		1	1			
Grant										2		
Gray						1	1	1				
Greeley												
Greenwood	2					2	5	2				
Hamilton	1			1	1							
Harper	2							3				
Harvey	1			1	1	3		3			2	
Haskell						1						
Hodgeman								1				
Jackson	1					1	2	3		1	2	
Jefferson					1	1	1	4	1			
Jewell	4											
Johnson	4				1	2	2	4			1	
Kearny	1									1		
Kingman	1						2					
Kiowa	2						1	4				
Labette, except	3	2		2		2	3	2				
Parsons	1	1		1		1	2	2		1	2	
Lane			1				2					
Leavenworth, except	2						3	3		2	2	
Leavenworth city,	2	3			1		4	5			3	
Lincoln						2	1	5				
Linn	3				1	1	2	2	1			
Logan									1			
Lyon	1		1	5			5	1			1	
Marion	3			2		3	4	2			1	
Marshall	1	1				2	3	3				
McPherson	1				4	1	3			1	1	
Meade								1		1		
Miami	4	1		1		2	1	3	1	1	2	
Mitchell	2			2				2		2	3	

TABLE No. 9—CONTINUED.

COUNTIES.	Typhoid fever.....	Malaria.....	Smallpox.....	Measles.....	Scarlet fever.....	Whooping cough.....	Diphtheria and croup.	Influenza.....	Dysentery.....	Erysipelas.....	Purulent infection and septicæmia.....	Rabies.....
.....nery, except	8	1				1	3	6		1	1	
.....ville.....	1	1			1	2	4	2				
.....ndence.....	5	1				4	4	2			1	
.....				1		1						
.....	1					1	1	1			4	
.....		2		1	1	5	4	4				
.....						1		2				
.....	1				1	2	1	2			1	2
.....				1		1		3			1	
.....						8	2	2			1	
.....	8			2	2	1	2	1	1	1	2	
.....tomie.....						2	2	1			2	
.....	1				1	1	3	1		1		
.....cept.	2			1		1	2	1			2	
.....inson.....	4			1		2	2	2			2	
.....	2			1		1		2	1			
.....	1			3		1	4	1				
.....							1	4			1	
.....	1						3	1				
.....	1			1			4	1			1	
.....	2			1	1	2	2	3		1	6	1
.....	1							1				
.....s, except.				1		2	2				2	
.....ta.....	9	1	3	6		7	2	4		2	3	
.....							1	1				
....., except.	2					1		5	1	1	4	
.....a.....	14			1		4	10	7	1	6	3	
.....				3	1	1						
.....						1	5	1		1	2	
.....	1					3		1			1	
.....					1	2						
.....	3			1			1	3			2	
.....							3	1				
.....see.....	1					1	1	3				
.....ton.....	1					2		2				
.....						1	9					
.....	2					2		3	1			
.....1.....	1					3	1	4				
.....tte, except..	2				1	3	5	3	1		1	
.....s City.....	15	3		3	4	13	26	11	3	4	7	

TABLE No. 9—CONTINUED.

COUNTIES.	Tetanus.....	Mycoses.....	Pellagra.....	Tuberculosis, all forms.....	Tuberculosis of lungs.	Acute miliary tuberculosis.....	Tuberculous meningitis.....	Abdominal tuberculosis.....	Pott's disease.....	White swellings.....	Tuberculosis of other organs.....	Disseminated tuberculosis.....
Allen.....			3	19	16		1	1	1			
Anderson.....	1			6	6							
Atchison, <i>except</i>				3	2			1				
Atchison city.....				10	6	1	1	2				
Barber.....				5	4				1			
Barton.....	2			5	5							
Bourbon, <i>except</i>				3	3							
Fort Scott.....				4	4							
Brown.....				8	7				1			
Butler.....		1	2	10	7			1	1	1		
Chase.....				10	9		1					
Chautauqua.....	1			6	6							
Cherokee.....	2		5	45	40	1		3			1	
Cheyenne.....												
Clark.....				1	1							
Clay.....				9	8			1				
Cloud.....				6	5		1					
Coffey.....	1			3	3							
Comanche.....				1	1							
Cowley.....				20	15	1		1			2	1
Crawford, <i>except</i>	1		1	18	16			1		1		
Pittsburg.....				8	7						1	
Decatur.....				2	1						1	
Dickinson.....			1	7	6			1				
Doniphan.....				8	8							
Douglas, <i>except</i>	1			1	1							
Lawrence.....				19	18						1	
Edwards.....				6	5	1						
Elk.....				5	5							
Ellis.....				2	2							
Ellsworth.....				2	2							
Finney.....				9	8			1				
Ford.....				7	6						1	
Franklin.....				11	9			1	1			
Geary.....				7	5		1	1				
Gove.....				2	2							
Graham.....				2	2							
Grant.....												
Gray.....												
Greeley.....												
Greenwood.....				9	7	1		1				
Hamilton.....				4	4							
Harper.....				5	3		1				1	
Harvey.....				9	6		1	1			1	
Haskell.....												
Hodgeman.....				1	1							
Jackson.....				11	9			1			1	
Jefferson.....	1			7	4			1	1	1		
Jewell.....				4	4							
Johnson.....	1			6	6							
Kearny.....				1	1							
Kingman.....			1	7	6			1				
Kiowa.....				2	2							
Labette, <i>except</i>				17	15		1			1		
Parsons.....				14	14							
Lane.....												
Leavenworth, <i>except</i>				10	10							
Leavenworth city.....				20	19	1						
Lincoln.....				1	1							
Linn.....				12	11					1		
Logan.....				3	1			1		1		
Lyon.....			1	10	8		1		1			
Marion.....				9	7						1	1
Marshall.....				4	3			1				
McPherson.....				9	8						1	
Meade.....				2	1		1					
Miami.....	1			23	21			2				
Mitchell.....				2	2							

TABLE No. 9—CONTINUED.

CITIES.	Tetanus.....	Mycoses.....	Pellagra.....	Tuberculosis, all forms.....	Tuberculosis of lungs.	Acute miliary tuberculosis.....	Tuberculous meningitis.....	Abdominal tuberculosis.....	Pott's disease.....	White swellings.....	Tuberculosis of other organs.....	Disseminated tuberculosis.....
every, except ville.....	1			16	16			1			1	
ndence.....				12	10						1	
				18	12							
				5	5							
				3	3							
	2			6	6							
				15	15							
				2	2			1				
	1			5	4			1				
	1			11	10			1				
				4	4							
				4	3			1				
				5	5							
omie.....	1			6	3		1	2				
				8	6			2				
				8	2			1				
ept				1	1							
nson.....	1			4	4							
				9	9							
				4	2			2				
				8	8							
				4	4							
				5	4			1				
				15	11			8	1			
				1					1			
, except	1		1	5	4			1				
a	2		4	39	31	3	2	2	1			
				2	2							
, except	3			18	11			1			1	
a	2			45	39	1	2	1		1	1	
				3	1							
				2	2							
				4	4							
				4	4							
	1			2	2							
				18	11		1	1				
see	1			9	8		1					
				1	1							
ton				1			1					
				1	1							
			1	16	13						8	
				2	2							
tte, except			1	18	14		1	1	2			
s City	2			187	119	7	2	6	1		2	

TABLE No. 9—CONTINUED.

COUNTIES.	Rickets.....	Syphilis.....	Gonococcus infection.	Cancer, all forms....	Cancer of Buccal cavity.....	Cancer of stomach and liver.....	Cancer of intestines, etc.....	Cancer of female genital organs.....	Cancer of breast.....	Cancer of skin.....	Cancer of other organs.....	Other tumors.....
Allen.....		1		18	1	5	4	8	2		3	
Anderson.....				12		7		1	1	2	1	
Atchison, <i>except</i> Atchison city.....		1 2		14		7	3				4	1
Barber.....		1		8		2					1	
Barton.....				18		6		2	2		8	
Bourbon, <i>except</i> Fort Scott.....		1	1	6 10		1 8	1	1 1	1 2	1	2 8	
Brown.....				18		8	2	8	1	1	8	
Butler.....				8		6		1	1		1	
Chase.....				6	1	8		1			1	
Chautauqua.....		1		8		1	1		8	1	2	
Cherokee.....				21	8	8	1	4		2	8	
Cheyenne.....				2		1		1				
Clark.....				2		1			1			
Clay.....	2			7		3	2				2	
Cloud.....				21		8	4	2	2		5	2
Coffey.....	2			14		4	3	8	2		2	
Comanche.....		1		1	1							
Cowley.....	1			22	1	10	2	8	1		5	1
Crawford, <i>except</i> Pittsburg.....				20 11		12 8	2 1	1 8	8	1 2	1 1	
Decatur.....				5		3			1		1	
Dickinson.....				12	1	5	2		8		1	1
Doniphan.....				5		3	1	1				
Douglas, <i>except</i> Lawrence.....		1		5 21		2 12	1 2	1 1	1 1		1 8	
Edwards.....		1		8		2		1			1	
Elk.....				5		1	1	1	1		1	
Ellis.....				6		2		1			8	
Ellsworth.....		1		11		5	2	4				
Finney.....				5		8					2	
Ford.....				13		4					9	
Franklin.....		2		17		6	4	2	1		4	
Geary.....				18	1	7	1	1	2		1	
Gove.....				1				1				
Graham.....				8		2	1					
Grant.....												
Gray.....												
Greeley.....												
Greenwood.....			1	9		4		1		1	3	
Hamilton.....												
Harper.....				7		2		8		1	1	
Harvey.....				20	1	7	5	8	1		8	
Haskell.....												
Hodgeman.....				8		1	1				1	
Jackson.....				12		5	2	1	2	1	1	1
Jefferson.....				10		7			1		2	
Jewell.....				12		5	1	1	2	1	2	
Johnson.....				8		4	1		3			2
Kearny.....		1		2		1					1	
Kingman.....				6	1	2		1			2	
Kiowa.....				2	1			1				
Labette, <i>except</i> Parsons.....		1		19 16		5 8	1 2	2 4		1	10 1	
Lane.....												
Leavenworth, <i>except</i> Leavenworth city,	1	1		13 17		9 9	1 8			1	2 1	
Lincoln.....				6		1	3		1		1	
Linn.....				7		3	1				8	
Logan.....												
Lyon.....		1		20		12	8	2	1	1	1	
Marion.....				14		4	2	8	1	1	3	
Marshall.....	1			13		9	2		1		1	
McPherson.....				18		9	2		2	1	4	
Meade.....		1		2				1	1			
Miami.....		5		11	1	3	1	8	2		1	
Mitchell.....		1		11		6	2	2	1			

TABLE No. 9—CONTINUED.

COUNTIES.	Rickets.....	Syphilis.....	Gonococcus infection.	Cancer, all forms....	Cancer of Buccal cavity.....	Cancer of stomach and liver.....	Cancer of intestines, etc.....	Cancer of female genital organs.....	Cancer of breast.....	Cancer of skin.....	Cancer of other organs.....	Other tumors.....
Montgomery, <i>except</i>		1		10		6	1		2	1		
Coffeyville.....		8		8		8		2	2		1	
Independence.....				3		1	1				1	
Morris.....		1		5		2	1		1		1	
Morton.....				1		1						
Nemaha.....				14	1	8					5	
Neosho.....				17		5	3	1	3	1	4	
Ness.....		1		2				1			1	
Norton.....				10		4	1		1	1	3	
Osage.....		1		18		8	4			1	5	
Osborne.....		1		7	1	6						
Ottawa.....				6		2				1	3	
Pawnee.....				3			1			1	1	
Phillips.....				5		2					3	
Pottawatomie.....	1			6		1	2				3	
Pratt.....				8		2	2	1			3	
Rawlins.....												
Reno, <i>except</i>		2		6		1	2				3	1
Hutchinson.....		4		11	1	3	1		3		3	
Republic.....				15		6	1	2	1	1	4	
Rice.....				10		5	2	2			1	
Riley.....				12	1	5	2	1	3			
Rooks.....				2		1		1				
Rush.....				2		1					1	1
Russell.....				5		3	1				1	
Saline.....				16	1	5	2	2	1	1	4	1
Scott.....				2					1		1	
Sedgwick, <i>except</i>		1		5	2	2	1					
Wichita.....		3		63	2	26	13		3	4	15	
Seward.....				3		1		1			1	
Shawnee, <i>except</i>		3		8	1	3	2	1			1	
Topeka.....		4		34	1	11	6	2	1		13	5
Sheridan.....				1		1						
Sherman.....				2	1						1	
Smith.....				11		3					3	
Stafford.....				5		1		1	1		2	
Stanton.....												
Stevens.....				2			1	1				
Sumner.....				20		3	3		1	2	6	
Thomas.....				3		1			1		1	
Trego.....				1					1			
Wabaunsee.....				5		3					2	
Wallace.....												
Washington.....				11		7	1	1		1	1	
Wichita.....												
Wilson.....				8		3	2	1			2	
Woodson.....				10		7			1		2	
Wyandotte, <i>except</i>		3		15	1	7		4		1	2	
Kansas City.....		16		80	5	29	13	3	3	1	21	1

TABLE No. 9—CONTINUED.

COUNTIES.	Acute articular rheumatism.....	Chronic rheumatism..	Diabetes.....	Exophthalmic goitre..	Addison's disease....	Leukemia.....	Anemia.....	Other general diseases.	Alcoholism.....	Chronic lead poison- ing.....	Other chronic poison- ings.....	Other chronic occupa- tion poisonings.....
Allen.....		1	4	1			2					
Anderson.....	1	1	2				1					
Atchison, <i>except</i>			2						1			
Atchison city.....	5		5	1					1			
Barber.....			2									
Barton.....			5						1			
Bourbon, <i>except</i>	1											
Fort Scott.....	1	2	8									
Brown.....	2		2	1			2					
Butler.....		1	6				5		1			
Chase.....	1	1	2			1	1					
Chautauqua.....	4	1	2									
Cherokee.....	4	4	7						2			
Cheyenne.....												
Clark.....			1									
Clay.....	3	2	3	1								
Cloud.....	2		2									
Coffey.....		1	4									
Comanche.....			1				1					
Cowley.....	1	3	6	3		1	6		2			
Crawford, <i>except</i>	3	1	6			2	2		2			
Pittsburg.....		1	1			1	2		1			
Decatur.....			1				1					
Dickinson.....	1	1	2		1	2						
Doniphan.....							1		1			
Douglas, <i>except</i>			3		1							
Lawrence.....	1		2				1					
Edwards.....	1											
Elk.....				1			1					
Ellis.....		1				1	1					
Ellsworth.....			1									
Finney.....	1											1
Ford.....						2	2		1			
Franklin.....	4		4				4					
Geary.....	3		3						1			
Gove.....												
Graham.....	1						2					
Grant.....												
Gray.....												
Greeley.....												
Greenwood.....	4	1	2	1			1					
Hamilton.....			1									
Harper.....	1	1	1	1								
Harvey.....	1		5	2			2	1				
Haskell.....									1			
Hodgeman.....												
Jackson.....	1	1	3				2					
Jefferson.....	2		2			1	3					
Jewell.....			5				2					
Johnson.....		1	5				1		1			1
Kearny.....												
Kingman.....			3				4	1		1		
Kiowa.....	1		1									
Labette, <i>except</i>	2	1	4	3		1	2					1
Parsons.....												
Lane.....												
Leavenworth, <i>except</i>			4			1	2		1			
Leavenworth city.....	1		3			1			3			
Lincoln.....	2		1									
Linn.....	1	2	2				2					1
Logan.....												
Lyon.....	2	2	4				1					
Marion.....	3	1	4	1			1					
Marshall.....	3	2	2	1			2					
McPherson.....	1		3	1		1	3					
Meade.....	1		3						1			
Miami.....		1					3					2
Mitchell.....			4	1					2			

TABLE No. 9—CONTINUED.

COUNTIES.	Acute articular rheumatism.	Chronic rheumatism.	Diabetes.	Exophthalmic goitre.	Addison's disease.	Leukemia.	Anemia.	Other general diseases.	Alcoholism.	Chronic lead poison- ing.	Other chronic occupa- tion poisoning.	Other chronic poison- ings.
Montgomery, <i>except</i>	3	2	6			1	3		1			1
Colleyville.		1	3				1			1		
Independence.		1	3				2					
Morris.							1		1			
Morton.	1		2									
Nemaha.		1	5	1			2					
Neosho.		1				1	2	1				
Ness.	1	1	2				1					
Norton.			7	1								
Osage.	1	1	8				1	1	2			
Osborne.	4	1	4			1						
Ottawa.	1		1				2					
Pawnee.	1		2	1								
Phillips.	2		2						4			
Pottawatomie.	1		2			1	1	1				
Pratt.	1			1								
Rawlins.			8							1		
Reno, <i>except</i>	1	1	5				1					
Hutchinson.			4			1	2				1	
Republic.			3				2					
Rice.	1		2				2					
Riley.	2	2	3			1	2					
Rooks.	1		1				2					
Rush.												
Russell.	1	1	3				1					
Saline.	2	1					1					
Scott.		1	4				4					
Sedgwick, <i>except</i> .		1	13									
Wichita.	10			1		1	1	1	5			2
Seward.			8				9					
Shawnee, <i>except</i>	1	1	12			1			1			
Topeka.	2			2			3		2		1	3
Sheridan.												
Sherman.						1						
Smith.	1		5									
Stafford.	1		1									
Stanton.												
Stevens.												
Sumner.	2	1	3				2					
Thomas.												
Trego.												
Wabaunsee.	1	1	3									
Wallace.	1		1						1			
Washington.	1						1					1
Wichita.												
Wilson.	3		6	1			1					
Woodson.	1		1	1					1			
Wyandotte, <i>except</i> .	2		2			1			1			
Kansas City.	10	4	18			3	5					

TABLE No. 9—CONTINUED.

COUNTIES.	Encephalitis.....	Meningitis.....	Locomotor ataxia....	Acute anterior polio- myelitis.....	Other diseases of spinal cord.....	Cerebral hemorrhage, apoplexy.....	Softening of the brain.	Paralysis without specific cause.....	General paralysis of insane.....	Other forms of mental alienation.....	Epilepsy.....	Convulsions (Nonpuerperal.).....
Allen.....	1	4			2	17	3	6		1		
Anderson.....	1	1		1	1	9	1	1				
Atchison, <i>except</i> Atchison city.....			1			6		8		1		
Barber.....				1		18		8		4		
Barton.....				1		2		2			1	
Bourbon, <i>except</i> Fort Scott.....	2	1	2			5	1	8			1	
Brown.....		4				12	1	2			1	
Butler.....					1	15	1	2	1	2	1	
Chase.....						3						
Chautauqua.....	1				1	4		1		1		
Cherokee.....	1	3				16		9		1	2	
Cheyenne.....			1			1						
Clark.....						2						
Clay.....						15	1	3		3	4	
Cloud.....			1			8		5		1	1	
Coffey.....		1	1	1	1	11	1	5		1	2	
Comanche.....		2				2						
Cowley.....					3	26	1	12			5	
Crawford, <i>except</i> Pittsburg.....	1	8	1		1	19	1	2		1	1	
Decatur.....		1			1	11		3	1		1	
Dickinson.....			1			7						
Doniphan.....		2				21		3				
Douglas, <i>except</i> Lawrence.....		1				11		4				
Edwards.....	1				2	11		8				
Elk.....		1				2	1	1				
Ellis.....		2				5		3		2		
Ellsworth.....	1		2			2		1			1	
Finney.....		1				5		2				
Ford.....	2			1		3		3				
Franklin.....	2				2	4		2		1		
Geary.....	1	2				21		8	1			
Gove.....						5		2				
Graham.....						2		1				
Grant.....						1						
Gray.....		1				1						
Greeley.....								1				
Greenwood.....					1	7		6			1	
Hamilton.....						2						
Harper.....		1			1	4		1				
Harvey.....		1			1	17	1	3			1	
Haskell.....						2						
Hodgeman.....		1				2						
Jackson.....	1		1	1		11		5				
Jefferson.....		1	1		1	17		3		1		
Jewell.....		1				7	1	5				
Johnson.....		1		1		20	2	6			2	
Kearny.....						2						
Kingman.....	1	1				5		1				
Kiowa.....					1	4		1				
Labette, <i>except</i> Parsons.....	1			1		20		18			9	
Lane.....	1	1				12		2			18	
Leavenworth, <i>except</i> Leavenworth city,	1	3	1			23		4		3	3	
Lincoln.....	1				2	15		4	1	1		
Linn.....	1		1			5	1	3				
Logan.....						8		4				
Lyon.....		1		1		2						
Marion.....		1		1		20	1	5		1	1	
Marshall.....		1	1		1	11		3			1	
McPherson.....		1	1			16	1	6	1	1		
Meade.....						24	1	7	1			
Miami.....	1					1						
Mitchell.....		1				33	1	7	7	18	4	1
						3	1	4			1	

TABLE No. 9—CONTINUED.

COUNTIES.	Encephalitis.....	Meningitis.....	Locomotor ataxia.....	Acute anterior poliomyelitis.....	Other diseases of spinal cord.....	Cerebral hemorrhage, apoplexy.....	Softening of the brain.	Paralysis without specific cause.....	General paralysis of insane.....	Other forms of mental alienation.....	Epilepsy.....	Convulsions..... (Nonpuerperal.)
Montgomery, except Coffeyville.....	1	2	1			9	1	9		1	8	
Independence.....	1	2	1			12		2				
Morris.....				1		7		8		1	1	
Morton.....						3						
Nemaha.....	1		1			6		6				
Neosho.....	2	1	1			13	2	4				
Ness.....	1					4		8				
Norton.....						5		8	1			
Osage.....		1			1	18	2	3			1	
Osborne.....		3				5	1	6				
Ottawa.....		2				8		5				
Pawnee.....						10				1		
Phillips.....		1			1	5		1		1	1	
Pottawatomie.....	1	1			1	9	1	6				
Pratt.....		3		1		5		3			1	
Rawlins.....		1				2		1			1	
Reno, except Hutchinson.....	1	1				10		1				
Republic.....	2	1				16		2				
Rice.....	1					3		3			2	1
Riley.....		1				11		1				
Rooks.....	1		1		1	11		3			1	
Rush.....						4	3	8				
Russell.....						5	1	2				
Saline.....			2	1		10		6				
Scott.....						10	1	5			8	
Sedgwick, except Wichita.....	1					1						
Seward.....	3	1				16		2			3	
Shawnee, except Topeka.....	8	7	1	1	2	46	1	12	1	4	6	
Sheridan.....						1						
Sherman.....		2	1			23		7	16	13	1	
Smith.....	7	2		1	3	34		19	5	9	1	
Stafford.....	2										1	
Stanton.....	1						1				1	
Stevens.....						2		2				
Sumner.....	1	5			1	1		2				
Thomas.....						19	1	9				1
Trego.....						1		1				
Wabaunsee.....						2		2				
Wallace.....			1			5						
Washington.....	1					2						
Wichita.....						16		10		1		
Wilson.....	1					2		1		1		
Woodson.....	1		1		2	9		5				
Wyandotte, except Kansas City.....						5		2		1	1	
	3	2			1	12	1	2		1		
	4	10	1	2	1	44	2	11	1	4	2	1

TABLE No. 9—CONTINUED.

COUNTIES.	Convulsions of in- fants.....	Chorea.....	Neuralgia and neuritis.	Other diseases of ner- vous system.....	Diseases of ears.....	Pericarditis.....	Acute endocarditis...	Organic diseases of heart.....	Angina pectoris.....	Diseases of arteries, etc.....	Embolism and thrombosis.....	Diseases of the veins.
Allen.....	1		1		1			19	5	2	1	
Anderson.....	2							21		2	1	
Atchison, <i>except</i> Atchison city.....	1							3	3	2		
Barber.....								20	1	2		1
Barton.....	1		1					3		1	1	
Bourbon, <i>except</i> Fort Scott.....		1						15		1		
Brown.....								8		2		
Butler.....		1	1					10	3	2	1	
Chase.....						1		19	3	8		
Chautauqua.....	2							32	4	2		
Cherokee.....	2		1					4	1	1		
Cheyenne.....	1							9		1	2	
Clark.....								22	1	7		
Clay.....								4				
Cloud.....			1					1				
Coffey.....	1					1	1	16		1		
Comanche.....								14	3	2	1	
Cowley.....	1							16	1	1		1
Crawford, <i>except</i> Pittsburg.....			2			1		1		1	2	
Decatur.....								21	3	8		
Dickinson.....								24	6	2	2	
Doniphan.....	2							19	2	4		
Douglas, <i>except</i> Lawrence.....								6			2	
Edwards.....								31		4	1	
Elk.....	1							17	1	2	1	
Ellis.....	3							11	1	4		
Ellsworth.....		1						12	1	6		
Finney.....							1	4			1	
Ford.....								2		2	1	
Franklin.....	2						1	9		1	2	1
Geary.....								13		1		
Gove.....								5		2		1
Graham.....	1							18		1		
Grant.....								11	2	4		
Gray.....								3	1	2		
Greeley.....								1				
Greenwood.....	1							2				
Hamilton.....								5				
Harper.....							1	11	2	3	1	
Harvey.....								28	5	5	2	
Haskell.....												
Hodgeman.....												
Jackson.....	1		1			1	1	25		2		
Jefferson.....			1					14	3	4	1	
Jewell.....								15	1	2		
Johnson.....			1					17	1	7		
Kearny.....								1				
Kingman.....								8	2			
Kiowa.....	1							6	2	1		
Labette, <i>except</i> Parsons.....	2			2			1	13	4	6	1	
Lane.....								17		8	1	
Leavenworth, <i>except</i> Leavenworth city,			1					2				
Lincoln.....							3	34	2	6	1	
Linn.....								27	3	4		
Logan.....								7			1	
Lyon.....	2				1			14		1		
Marion.....	1					1		4				
Marshall.....	2							29	2	7	5	
McPherson.....				1				50	3	2		
Meade.....						2		18	2	2		
Miami.....	1						1	18		1		
Mitchell.....	1					1	1	2	1	1	1	
								71		1		
								20	1	1	4	

TABLE No. 9—CONTINUED.

COUNTIES.	Convulsions of infants.....	Chorea.....	Neuralgia and neuritis.	Other diseases of nervous system.....	Diseases of ears.....	Pericarditis.....	Acute endocarditis.....	Organic diseases of heart.....	Angina pectoris.....	Diseases of arteries, etc.....	Embolism and thrombosis.....	Diseases of the veins.
Montgomery, <i>except</i>	2		1					18	2	5		
Coffeyville.....	2							11	2	1	1	
Independence.....			1					12		1	1	
Morris.....								13		4	1	
Morton.....												
Nemaha.....								20	1	10	1	
Neosho.....								24	2	5		
Ness.....								6		1	1	
Norton.....								17	1	1		
Osage.....				1				19	1	5		
Osborne.....								10	1	6		
Ottawa.....								9	3	1	1	
Pawnee.....								11	1	1		
Phillips.....							1	8	2	1		
Pottawatomie.....	1							11	1	8	1	
Pratt.....								8	1	1		1
Rawlins.....								5	1	1		
Reno, <i>except</i>	1					2	1	8	2	1		
Hutchinson.....				1	1	1	1	20	8	4	1	
Republic.....			1					12	2	1		
Rice.....			4					15		2		
Riley.....	2							11		5	1	
Rooks.....				1				4		1		
Rush.....	1							4	2			
Russell.....	1							8	1	1	1	
Saline.....	3							14	1	2	1	
Scott.....	1											
Sedgwick, <i>except</i>								14	1	1		
Wichita.....	2						8	82		14	6	1
Seward.....								3				
Shawnee, <i>except</i>	1	2						27	1	2		
Topeka.....	5	2	2	1			2	96	7	10	2	
Sheridan.....								2				
Sherman.....	1		1					2	1	2		
Smith.....								12		2		
Stafford.....		1					1	15	1	2		
Stanton.....			1									
Stevens.....	1											
Sumner.....				1			1	25	8	5	1	
Thomas.....								4				
Trego.....								4				
Wabaunsee.....			2				1	14	1	4	1	
Wallace.....								3				
Washington.....								14		8	1	
Wichita.....								2		1		
Wilson.....						1		17	1	1		1
Woodson.....								9		2		
Wyandotte, <i>except</i>	2			1				32	8	8		
Kansas City.....	1				1	5		111		16	8	1

TABLE No. 9—CONTINUED.

COUNTIES.	Diseases of the lym- phatic system.....	Hemorrhage.....	Diseases of nasal fossae.....	Diseases of larynx....	Diseases of thyroid..	Acute bronchitis.....	Chronic bronchitis...	Broncho-pneumonia..	Pneumonia.....	Pleurisy.....	Pulmonary congestion.	Gangrene of the lung.
Allen.....			1				2	6	17		1	
Anderson.....								2	3		1	
Atchison, except Atchison city.....						1		8	5			
Barber.....						1	1	6	13		3	
Barton.....								2	1		1	1
Bourbon, except Fort Scott.....						1	1	6	9			
Brown.....						2	2	5	10			
Butler.....							1	7	7			
Chase.....					1		1	6	3	1		
Chautauqua.....								2	2		2	
Cherokee.....						12	2	15	28		3	
Cheyenne.....									2			
Clark.....												
Clay.....						1		8	6		1	
Cloud.....							1	6	10			
Coffey.....						1	2	6	8			
Comanche.....									2			
Cowley.....					1	1	2	11	17			
Crawford, except Pittsburg.....						3	1	18	26		1	
Decatur.....						8	1	14	10		1	1
Dickinson.....								20	8			
Doniphan.....						2	2	9	11			
Douglas, except Lawrence.....				1			3	5	15		1	1
Edwards.....						3	3	13	3	1	1	
Elk.....						1		6	4		1	
Ellis.....							2	12	9			
Ellsworth.....							1	2	3			
Finney.....							1	2	2		1	
Ford.....							4	10	1		1	
Franklin.....						2		9	23		4	1
Geary.....						2	1	1	8		1	
Gove.....							1	2	2			
Graham.....						1		5	3			
Grant.....								1	1			
Gray.....								1	2		1	
Greeley.....												
Greenwood.....				1			1	10	11			
Hamilton.....												
Harper.....								6	11		1	
Harvey.....							1	4	7			
Haskell.....						1						
Hodgeman.....								2	1			
Jackson.....							1	5	5	2	1	
Jefferson.....						1	2	5	16	1	1	
Jewell.....						1	1	8	8			
Johnson.....								8	13		1	
Kearny.....									1			
Kingman.....						1	1	4	1	1		
Kiowa.....						1	1	1	2	1	1	
Labette, except Parsons.....						1	4	5	8		2	
Lane.....								8	16			
Leavenworth, except Leavenworth city.....				1	1	5	3	2	1		1	1
Lincoln.....								5	31	1		
Linn.....						1	1	10	21		1	
Logan.....								4	1			
Lyon.....						1	1	9	12		1	
Marion.....						1		1	2			2
Marshall.....						1	8	13	13			
McPherson.....						1		9	10		1	1
Meade.....			1			6	5	5	11	1		
Miami.....						2		7	8			
Mitchell.....	1					1	3	2	21	1		

TABLE No. 9—CONTINUED.

COUNTIES.	Diseases of the lym- phatic system.....	Hemorrhage.....	Diseases of nasal fossae.....	Diseases of larynx....	Diseases of thyroid..	Acute bronchitis.....	Chronic bronchitis...	Broncho-pneumonia..	Pneumonia.....	Pleurisy.....	Pulmonary congestion.	Gangrene of the lung.
Montgomery, <i>except</i> Coffeyville.....					1	4	3	7	10			
Independence.....						1	1	7	10		1	
Morris.....							3	2	8		1	
Morton.....								1	1			
Nemaha.....							2	7	12			1
Neosho.....							1	11	2			
Ness.....								1	5			
Norton.....					1			3	4			
Osage.....							2	7	12		1	3
Osborne.....							1	6	6			
Ottawa.....				1	1		2	3	8	1		1
Pawnee.....			1					5	6			
Phillips.....						1		2	8			
Pottawatomie.....							4	3	13		1	
Pratt.....						1		1	2			1
Rawlins.....						1	2	3	2			1
Reno, <i>except</i> Hutchinson.....				2		1	2	6	6	1		1
Republic.....							1	6	13			
Rice.....					1	1		3	8		3	
Riley.....						2	1	8	7	1		
Rooks.....				1				2	5		1	1
Rush.....								2	4			
Russell.....		1				1		7	5			1
Saline.....						3	3	13	15		3	2
Scott.....								1				
Sedgwick, <i>except</i> Wichita.....				1				3	6			
Seward.....						4	8	28	35		4	
Shawnee, <i>except</i> Topeka.....					1	2	1	7	10			1
Sheridan.....						3	1	22	47		3	2
Sherman.....		1						9				
Smith.....						1		2	3			1
Stafford.....							1	9	10			
Stanton.....								5	3			
Stevens.....				1					1			
Sumner.....		1				1	3	10	17			
Thomas.....									1			
Trego.....						1		4	2			
Wabaunsee.....								3	2			
Wallace.....								1	1			
Washington.....								3	10		1	1
Wichita.....												
Wilson.....			1			1	1	7	13		2	
Woodson.....								1	5			
Wyandotte, <i>except</i> Kansas City.....		2			1	1	1	10	12	1	2	
						8	8	102	102	1	4	4

TABLE No. 9—CONTINUED.

COUNTIES.	Asthma.....	Pulmonary em- physema.....	Other diseases of the respiratory system..	Diseases of mouth....	Diseases of pharynx..	Diseases of the oesophagus.....	Ulcer of stomach....	Other diseases of stomach.....	Diarrhea and enteritis..... (Under 2 years.)	Diarrhea and enteritis..... (2 years and over.)	Appendicitis.....	Hernia.....
Allen.....	1				1		1	4	6	9	2	
Anderson.....							1	1	5	3	2	
Atchison, <i>except</i>							1				1	
Atchison city.....							1	1	5		1	
Barber.....							2		2	2	1	
Barton.....	1							1	12	3	2	1
Bourbon, <i>except</i>									1	2	1	
Fort Scott.....							1			6		
Brown.....							1	1	4	2	3	
Butler.....	2						1	2	9	5		
Chase.....	1						1		3			
Chautauqua.....							1	3	7	2		
Cherokee.....	5			1			2	7	8	6	2	
Cheyenne.....									2		1	
Clark.....									1			
Clay.....								1	4	2	1	
Cloud.....				1				4	7	2	6	1
Coffey.....	1	1						1	3	8	1	
Comanche.....									5	1		
Cowley.....	1						3	5	7	8	7	1
Crawford, <i>except</i>	2						3	4	32	6	5	1
Pittsburg.....							1	2	6	4	5	
Decatur.....									1			
Dickinson.....	4						1		4	5	3	2
Doniphan.....	1							3	10	1		2
Douglas, <i>except</i>							1	1	1	5	2	
Lawrence.....							1	2		4		
Edwards.....									3			
Elk.....								1	3	1	1	
Ellis.....							2	1	5	3	4	
Ellsworth.....			1				1		5		1	
Finney.....									7	2	1	1
Ford.....	1								5	2	2	1
Franklin.....			1				2	3	5	4	1	
Geary.....								1	4			
Gove.....								2		1	1	
Graham.....								1	5	1		
Grant.....												
Gray.....									3	1		
Greeley.....												
Greenwood.....							1		3	1		
Hamilton.....									2			
Harper.....								2	6		3	
Harvey.....							3		4	3	6	1
Haskell.....	1								1			
Hodgeman.....												
Jackson.....							1	3	1	1	1	
Jefferson.....					1			1	2	3		
Jewell.....	2						1	2	3	1		
Johnson.....	3							1	3	6	1	
Kearny.....												
Kingman.....	1			1			1	2	4	2	2	
Kiowa.....									5	1		
Labette, <i>except</i>							3	2	3	2	1	
Parsons.....							1	1	5	2	4	1
Lane.....							1		1	2		
Leavenworth, <i>except</i>	1							1	2	2	2	
Leavenworth city.....	1					1	2	7	6	3	2	
Lincoln.....	1								2		1	1
Linn.....	1				1		1	2	7	4		
Logan.....									1	1		
Lyon.....						1	2	2	9	7	4	
Marion.....									9	3	1	1
Marshall.....								1	3	1		
McPherson.....							1	3	7	8	2	1
Meade.....									2	1	1	
Miami.....								3	4	6	1	
Mitchell.....					1			1	3	2	2	

TABLE No. 9—CONTINUED.

COUNTIES.	Asthma.....	Pulmonary em- physema.....	Other diseases of the respiratory system..	Diseases of mouth....	Diseases of pharynx..	Diseases of the esophagus.....	Ulcer of stomach....	Other diseases of stomach.....	Diarrhea and enteritis..... (Under 2 years.)	Diarrhea and enteritis..... (2 years and over.)	Appendicitis.....	Hernia.....
Montgomery, <i>except</i> Coffeyville.....							1	5	10	8	1	1
Independence.....								5	6	4	1	
Morris.....							1		4	5	2	
Morton.....									1	1		
Nemaha.....							2	3	3	1	3	
Neosho.....							6	1	4	6		1
Ness.....								1	1	1		
Norton.....								2	1	4	1	
Osage.....							1	8	5	5		1
Osborne.....									3	2		1
Ottawa.....				1					4	2	1	
Pawnee.....					1				3	1		
Phillips.....									1	4		1
Pottawatomie.....								1	5	5	2	
Pratt.....							1	2	6			
Rawlins.....								1	2			
Reno, <i>except</i> Hutchinson.....								1	5	1		
Republic.....								4	1	1		
Rice.....						1			9	2		
Riley.....								3	5	2	3	2
Rooks.....								2		3	1	
Rush.....									1	3		
Russell.....					1				4	2	1	
Saline.....	1						1	8	6	3	4	
Scott.....												
Sedgwick, <i>except</i> Wichita.....	1			2	1		7	5	3	4	1	3
Seward.....									4	2	1	
Shawnee, <i>except</i> Topeka.....							5	6	1	9		1
Sheridan.....									12	11	12	
Sherman.....										1		
Smith.....								3	3	1	2	
Stafford.....					1			1	4	5	2	
Stanton.....												
Stevens.....									2			
Sumner.....					2			2	9	6	4	1
Thomas.....									3	1		
Trego.....							1		2		1	
Wabaunsee.....							1	1	5	1		
Wallace.....												
Washington.....							1	3	1	2	1	
Wichita.....								1				
Wilson.....								2	7	3	4	
Woodson.....								1	8	2		
Wyandotte, <i>except</i> Kansas City.....	1				1	1	4	6	6	8	8	5

TABLE No. 9—CONTINUED.

COUNTIES.	Intestinal obstruction.	Other diseases of the intestines.	Acute atrophy of the liver.	Hydatid tumor of the liver.	Cirrhosis of the liver.	Biliary calculi.	Other diseases of the liver.	Diseases of the spleen.	Simple peritonitis.	Other diseases of digestive system.	Acute nephritis.	Bright's disease.
Allen	2				2	1	3		2		2	20
Anderson					3				1		2	7
Atchison, <i>except</i>	1				1		2					5
Atchison city	2				1		4		1			10
Barber							2					3
Barton	8					1	1				3	13
Bourbon, <i>except</i>							1					10
Fort Scott	1				2	1	1		1			10
Brown	3				2		2					20
Butler	3					2						10
Chase												3
Chautauqua	3		2		3	1	3					11
Cherokee	3		1		3	1	3			1	1	34
Cheyenne	1											3
Clark					1							3
Clay			1		1	2	2	1				8
Cloud	2				1							8
Coffey	1					2						8
Comanche												2
Cowley	2				1	2	7		2		1	20
Crawford, <i>except</i>	5				3	2	5		1		4	32
Pittsburg	3	1			7	3	5				3	34
Decatur						1						3
Dickinson	4				1		1				2	18
Doniphan	1					1	2					15
Douglas, <i>except</i>					1	1						6
Lawrence	3				1				1		1	14
Edwards							1					6
Elk	1						2				1	8
Ellis									1			5
Ellsworth	2		1		2		2				1	9
Finney							2		1			4
Ford	2				3		2		1			8
Franklin	3					3	3				1	24
Geary	1						1		1			8
Gove											1	5
Graham							1		1			2
Grant	1											
Gray	1											1
Greeley												
Greenwood	1			1		2	3					10
Hamilton	1											2
Harper	3				1		2					7
Harvey	5				1						1	13
Haskell												
Hodgeman					1							2
Jackson							2				4	6
Jefferson	1					1	1		1		2	14
Jewell	1				2	2					1	9
Johnson		1			2		2				1	13
Kearny							1					3
Kingman			1								4	7
Kiowa					1	1	1					2
Labette, <i>except</i>	2				4	1	1				1	12
Parsons	2				1						1	11
Lane												1
Leavenworth, <i>except</i>	2				1		1				1	16
Leavenworth city	1						1		2	1	2	16
Lincoln	1				1	1						11
Linn	3										2	7
Logan	1								1			1
Lyon	2				1	1			2		4	20
Marion	1				1		1		1		1	13
Marshall					3	1	1		1			9
McPherson	1		1		1	3	6					14
Meade	1				1							2
Miami	1				2	1	3		2		2	18
Mitchell	2					1			2		1	11

TABLE No. 9—CONTINUED.

COUNTIES.	Intestinal obstruction.	Other diseases of the intestines.	Acute atrophy of the liver.	Hydatid tumor of the liver.	Cirrhosis of the liver.	Biliary calculi.	Other diseases of the liver.	Diseases of the spleen.	Simple peritonitis.	Other diseases of digestive system.	Acute nephritis.	Bright's disease.
Montgomery, <i>except</i>	2		2		1	1	1					8
Conleyville.	2				2	1			1			15
Independence.	3					1	3				1	10
Morris.	1		1						3		1	6
Morton.												
Nemaha.	2				1		3				1	12
Neosho.	4		1		1		1				3	7
Ness.						1	1		1		1	2
Norton.	2					3					2	4
Osage.	1				1						1	17
Osborne.	1				1		2		1		1	10
Ottawa.							1					10
Pawnee.							1		2			7
Phillips.						1			1			7
Pottawatomie.							1		1			10
Pratt.						1	1					7
Rawlins.									1			1
Reno, <i>except</i>	3				1						3	11
Hutchinson.	3				3				1			9
Republic.	1				1		1					11
Rice.	5				2	1						5
Riley.	2	1			1	1	1			1	1	9
Rooks.							1					4
Rush.												1
Russell.	1				2						1	3
Saline.	2						1		1			11
Scott.												1
Sedgwick, <i>except</i>					1							4
Wichita.	11				5	6	12		6	2	2	39
Seward.	1				1		1				1	2
Shawnee, <i>except</i>	2						2		1			16
Topeka.	4				4	6	7		2		4	60
Sheridan.			1				1					3
Sherman.												3
Smith.	1				1	1	2					3
Stafford.	2		1		1	2					1	9
Stanton.												
Stevens.							1					1
Sumner.	1				4	2			1			20
Thomas.	1					1	1					5
Trego.											1	1
Wabaunsee.	1				1							5
Wallace.												2
Washington.	1				1		1				1	10
Wichita.							1					
Wilson.	2		1		2		1					9
Woodson.	1											5
Wyandotte, <i>except</i>	1				1		2		1		3	21
Kansas City.	11	1			3	4	5	2	2		11	100

TABLE No. 9—CONTINUED.

COUNTIES.	Other diseases of the kidneys.....	Calculi of the urinary passages.....	Diseases of the blad- der.....	Diseases of the pros- tate.....	Non-venereal diseases of the male genital organs.....	Uterine hemorrhage..	Uterine tumor.....	Other diseases of the uterus.....	Cysts and other tumors of ovary.....	Salpingitis, etc.....	Accidents of preg- nancy.....	Puerperal hemorrhage.
Montgomery, <i>except</i> Coffeyville.....			1	2								
Independence.....				1								
Morris.....											1	1
Morton.....												
Nemaha.....			1	1			1					
Neosho.....	1											1
Ness.....	1											
Norton.....				1								
Osage.....				1								
Osborne.....				1			1	1	1		2	
Ottawa.....									1			
Pawnee.....												
Phillips.....	1			1							1	
Pottawatomie.....	1			1								
Pratt.....												
Rawlins.....									1			
Reno, <i>except</i> Hutchinson.....	1			1								
Republic.....	1		2	4			1	1			1	
Rice.....			1	1								
Riley.....			1	2								
Rooks.....									1			
Rush.....			1									1
Russell.....							1					
Saline.....			2	1			2					2
Scott.....												
Sedgwick, <i>except</i> Wichita.....	5	1	1	2		2	1	1	5	4	1	1
Seward.....											1	
Shawnee, <i>except</i> Topeka.....	2		1	1						1	1	1
Sheridan.....												
Sherman.....												
Smith.....	2											
Stafford.....			1	1					1			
Stanton.....												
Stevens.....												
Sumner.....	1											
Thomas.....												
Trego.....												
Wabaunsee.....				1			1					
Wallace.....												
Washington.....				1								
Wichita.....												
Wilson.....				2				1		1		
Woodson.....								1			1	
Wyandotte, <i>except</i> Kansas City.....	3		1	1						1	1	1

TABLE No. 9—CONTINUED.

COUNTIES.	Other accidents of labor.	Puerperal septicemia.	Puerperal albuminuria and convulsions.	Puerperal phlegmasia, alba dolens, embolus, sudden death.	Following childbirth.	Gangrene.	Furuncle.	Acute abscess.	Other diseases of the skin.	Diseases of bones.	Other diseases of organs of locomotion.	Congenital malformation.
Allen			1	1		1						1
Anderson												2
Atchison, <i>except</i>												1
Atchison city				1						1		1
Barber	2		2									1
Barton			2									2
Bourbon, <i>except</i>			1									1
Fort Scott	1	1				1						2
Brown		1										2
Butler	1					1						2
Chase		1	1							1		
Chautauqua			2									3
Cherokee		4	2	1		1			1			4
Cheyenne		2										
Clark												
Clay	1					1						4
Cloud	1	1				1				1		1
Coffey		2	1	1		1						
Comanche		2										
Cowley			1	1						1		2
Crawford, <i>except</i>	3	3	1					1	1	3		5
Pittsburg		4	1									1
Decatur												1
Dickinson		1		1				1				7
Doniphan		3		1						1		
Douglas, <i>except</i>												2
Lawrence		1				1				1		1
Edwards		1										1
Elk		1					1					1
Ellis												6
Ellsworth		1				1						2
Finney			1									
Ford						2						1
Franklin		1	1	1		2				1		2
Geary						1						
Gove		1										
Graham			1									2
Grant												
Gray	1											1
Greeley												
Greenwood			1	1		2						1
Hamilton												1
Harper		1	1									4
Harvey		1				1						
Haskell												
Hodgeman			1									
Jackson			1		1							1
Jefferson		1										4
Jewell		1	1						1	1		1
Johnson	1		1									1
Kearny	1	1										
Kingman	1											2
Kiowa		1										1
Labette, <i>except</i>		3	1			2						2
Parsons		2	1			1				1		
Lane												
Leavenworth, <i>except</i>			1									1
Leavenworth city	1	1								1		1
Lincoln												
Linn		3	1							1		1
Logan												
Lyon		1	1	1		2						3
Marion		2	2			1						9
Marshall		1										1
McPherson		1				1						2
Meade						1						2
Miami	1	2										3
Mitchell		3					1			1		1

TABLE No. 9—CONTINUED.

COUNTIES.	Other accidents of labor.....	Puerperal septicæmia.	Puerperal albuminuria and convulsions.	Puerperal phlegmasia, alba dolens, embolus, sudden death.....	Following childbirth.	Gangrene.....	Furuncle.....	Acute abscess.....	Other diseases of the skin.....	Diseases of bones....	Other diseases of organs of locomotion.	Congenital malformation.....
Montgomery, <i>except</i> Coffeyville.....		1			1							1
Independence.....												3
Morris.....		1	1			1						2
Morton.....												
Nemaha.....	1		1			1						3
Neosho.....		1	2			1						3
Ness.....		1										
Norton.....									1			3
Osage.....		1	1			1				1		5
Osborne.....												1
Ottawa.....			1									3
Pawnee.....												2
Phillips.....		1	2			1						
Pottawatomie.....						1						1
Pratt.....		1			1							2
Rawlins.....			1									
Reno, <i>except</i> Hutchinson.....		2	2	1		1				1	1	2
Republic.....						1				1		4
Rice.....		1						1		1		1
Riley.....	1											2
Rooks.....			1									
Rush.....												2
Russell.....	1		1			1						3
Saline.....		3	1									3
Scott.....		1										
Sedgwick, <i>except</i> Wichita.....		6	3	1						1		3
Seward.....										1		
Shawnee, <i>except</i> Topeka.....	1	1	1		1	2						2
Sheridan.....		2	3			4	1			1		3
Sherman.....												2
Smith.....		1	1	1						1		
Stafford.....			1		1	1						1
Stanton.....		1										
Stevens.....	1											
Sumner.....			1	1								7
Thomas.....		1										
Trego.....			1			1						2
Wabaunsee.....										1		1
Wallace.....												1
Washington.....						1						3
Wichita.....						1						
Wilson.....		1		2		1	1			1		1
Woodson.....			2									
Wyandotte, <i>except</i> Kansas City.....		1	3			1						1
		11	2	3		2	2			6		11

TABLE No. 9—CONTINUED.

COUNTIES.	Premature birth....	Congenital debility...	Other diseases peculiar to early infancy.	Lack of care.....	Senility.....	Suicide, total.....	Suicide by poison....	Suicide by asphyxia.	Suicide by hanging...	Suicide by drowning.	Suicide by firearms...	Suicide by cutting or piercing.....
Allen.....	3	6	1		11							
Anderson.....	3	3			18							
Atchison, <i>except</i>	5	1			3	1					1	
Atchison city.....		9			15	2	1				1	
Barber.....	6	2	2		2	2					2	
Barton.....	10	5		1	10	2	1				1	
Bourbon, <i>except</i>	6	4			13	2					1	1
Fort Scott.....	4	3			15	3	1				2	
Brown.....	5	3	3		17	2			1		1	
Butler.....	3	4			15	2			1			
Chase.....	6	3			3	3	1				2	
Chautauqua.....	5	4	1		11	1			1			
Cherokee.....	12	13	3	2	18	2	1				1	
Cheyenne.....	2	1			3							
Clark.....	3	2			2	1					1	
Clay.....	3	5	1		3	1					1	
Cloud.....	3	6		1	13	1	1					
Coffey.....	1	3	1	1	3							
Comanche.....	3	3			1	1	1					
Cowley.....	7	6			7	4	3		1			
Crawford, <i>except</i>	15	17	4	2	13	3	1		2	2	2	
Pittsburg.....	2	5	2		5	2	1				1	
Decatur.....	1	1			13							
Dickinson.....	6	3			16	1					1	
Doniphan.....	6	2	2		5							
Douglas, <i>except</i>	2	2			5	1					1	
Lawrence.....	7	1			15	4				1	2	1
Edwards.....	2	1			3							
Elk.....	2				6							
Ellis.....	9	7			1	1			1			
Ellsworth.....	5	2	1		7	3					3	
Finney.....	3	5		1	3	1	1					
Ford.....	3	4	1		7							
Franklin.....	5	6	3		17	1	1				3	
Geary.....		2			5	4			1			
Gove.....	3	4			2							
Graham.....	4	2			4							
Grant.....		1			1	1	1					
Gray.....		1										
Greeley.....												
Greenwood.....	6	7	2		3	1					1	
Hamilton.....	4	2	1		3							
Harper.....	7	3			6	3	1				2	
Harvey.....	11	4	3		7	1					1	
Haskell.....	1	1		1	1							
Hodgeman.....	4	2			1							
Jackson.....	11	3			9	2	1					1
Jefferson.....	3	5	2		9	3					3	
Jewell.....	6	1			7	1					1	
Johnson.....	4	6			5	2	1				1	
Kearny.....					2							
Kingman.....	7	5	1		5	2					2	
Kiowa.....	7	1	1		3	1	1					
Labette, <i>except</i>	4	2			10	2			2			
Parsons.....	7	1	2		6	1						1
Lane.....		1			1							
Leavenworth, <i>except</i>	3	2			211	7	2		1	1	2	
Leavenworth city,	9	3		1	17	2			1		1	
Lincoln.....	1	2	2		6							
Linn.....	2	4	2		10	5			1		4	
Logan.....	2	2		1		1						
Lyon.....	7	6			19	2	2					
Marion.....	7	7	2		11	3					1	
Marshall.....	15	5	1		14	3	1		1	1		
McPherson.....	6	6			16	2	1					
Meade.....		3			1							
Miami.....	7	6	1		15	4	2		1		1	
Mitchell.....	9	4	1		3							

TABLE No. 9—CONTINUED.

COUNTIES.	Premature birth.....	Congenital debility...	Other diseases peculiar to early infancy.	Lack of care.....	Senility.....	Suicide, total.....	Suicide by poison....	Suicide by asphyxia..	Suicide by hanging...	Suicide by drowning..	Suicide by firearms...	Suicide by cutting or piercing.....
Montgomery, <i>except</i>	13	9	1		21	2					2	
Coffeyville.....	8	2			7	2	2					
Independence.....	6	2			10	1	1					
Morris.....	9	1	2		9							
Morton.....												
Nemaha.....	6	3	2		13	4	1		3			
Neosho.....	8	4	2		21						1	
Ness.....	6	2			8	1						
Norton.....	5	4			7						1	
Osage.....	4	6	1		9	3			2			
Osborne.....	4	4	1		7							
Ottawa.....	5	2	3		6							
Pawnee.....	6				2	2			1			1
Phillips.....	4	1	1		8	2	1				1	
Pottawatomie.....	4	2			5	1					1	
Pratt.....	8	4	1		5							
Rawlins.....	1	4			2							
Reno, <i>except</i>	8	3	2		10	2	1					1
Hutchinson.....	9	3	1	3	6	4	2				2	
Republic.....	6	4	1		13	2		1			2	
Rice.....	2	4			12	2					1	
Riley.....	3	3			11	3				1	1	
Rooks.....	7	3			4	1					1	
Rush.....	4	5	2		1	2			1		1	
Russell.....	6	4	1		9	1			1			
Saline.....	6	8			11	3	1		1			1
Scott.....		4										
Sedgwick, <i>except</i>	5	4	3		4	1				1		
Wichita.....	24	19	3		12	10	3		1	1	3	1
Seward.....	3				2							
Shawnee, <i>except</i>	7	3	1		17	1					1	
Topeka.....	18	22	1		29	6			3		3	
Sheridan.....	1	6			2							
Sherman.....	1	1			1							
Smith.....	7	4	4		4	1					1	
Stafford.....	5	3	2		6	1					1	
Stanton.....		1										
Stevens.....					1							
Sumner.....	12	6	4		14	1	1					
Thomas.....	2	2										
Trego.....	4				1							
Wabaunsee.....	4	5	3		4	4	1		1		2	
Wallace.....	1	2										
Washington.....	1	2			13	3	1		1		1	
Wichita.....	1				1							
Wilson.....	9	4	1		8	2			2			
Woodson.....	3	1			10	1					1	
Wyandotte, <i>except</i>	8	5	6		6							
Kansas City.....	41	24	8		23	14	7			2	4	

TABLE No. 9—CONTINUED.

COUNTIES.	Suicide by jumping...	Other suicides.....	Total accidents.....	Poisoning by food....	Other acute poisoning.	Conflagration.....	Burns.....	Absorption of dele- terious gases.....	Accidental drowning..	Traumatism by fire- arms.....	Traumatism by cut- ting, etc.....	Traumatism by fall..
Allen.....			9	1					2	1		2
Anderson.....			10		1		1					1
Atchison, <i>except</i>			7	1			1			1		
Atchison city.....			15				5					
Barber.....			9				2		1	2		
Barton.....			22				2		3	1		
Bourbon, <i>except</i>			4				1					
Fort Scott.....			12	1			2	2	2			3
Brown.....			3				1					1
Butler.....		1	11				2		1	1		2
Chase.....			10	1		1	1		1			1
Chautauqua.....			5				1		1			1
Cherokee.....			28		1	2	3		6	2		
Cheyenne.....			3									1
Clark.....			8	1								
Clay.....			7		1			1	1			2
Cloud.....			6		2					1		
Coffey.....			5				1					3
Comanche.....			1									
Cowley.....			21				1		5	2		6
Crawford, <i>except</i>		1	36		2	2	1	1	3	2		5
Pittsburg.....			18		1		4		1	1		3
Decatur.....			6				1		2			2
Dickinson.....			20	1	1		1	2	3			5
Doniphan.....			8				1		2	1		2
Douglas, <i>except</i>			7		1	1			1			
Lawrence.....			6				2		1			1
Edwards.....			7							1		1
Elk.....			9		1	3						1
Ellis.....			6	2					2	1		
Ellsworth.....			6				2					
Finney.....			4							1		
Ford.....			8				1					2
Franklin.....			8	1			1					2
Geary.....			12				1		4	1		
Gove.....			2									
Graham.....			6				1					1
Grant.....												
Gray.....												
Greeley.....			1						1			
Greenwood.....			3						1			
Hamilton.....												
Harper.....			4		1							
Harvey.....			17	1		1		1	1	1		2
Haskell.....			1									
Hodgeman.....												
Jackson.....			6						1			1
Jefferson.....			12	1			1		1			5
Jewell.....			10			1			2	1		3
Johnson.....			19		2				2	1		1
Kearny.....			4				2					
Kingman.....			3							1		
Kiowa.....			2									
Labette, <i>except</i>			6	1	1					1		1
Parsons.....			6									1
Lane.....			2						1			1
Leavenworth, <i>except</i>	1		8						4			1
Leavenworth city.....			13	1				1	1			2
Lincoln.....			1									
Linn.....			5		1		2			1		
Logan.....		1	4		1				2			
Lyon.....			13	1	3		3					1
Marion.....	1	1	8						1			3
Marshall.....			9				1		2			
McPherson.....		1	8	1			2		1			
Meade.....			2									
Miami.....			10					1	4	1		
Mitchell.....			10		3					1		2

TABLE No. 9—CONTINUED.

COUNTIES.	Suicide by jumping...	Other suicides.....	Total accidents.....	Poisoning by food....	Other acute poisoning.	Conflagration.....	Burns.....	Absorption of dele- terious gases.....	Accidental drowning..	Traumatism by fire- arms.....	Traumatism by cut- ting, etc.....	Traumatism by fall..
Montgomery, <i>except</i>			9									2
Coffeyville.....			6				2		1			1
Independence.....			8	1					1	1		2
Morris.....			4						1			2
Morton.....												
Nemaha.....			7						1			2
Neosho.....			12		2		1		1	1		
Ness.....			4						1	1		
Norton.....			6	1			2			1		
Osage.....			11		2		2			1		3
Osborne.....			5		1				2	1		
Ottawa.....			5						2			1
Pawnee.....			8				2					2
Phillips.....			5				1		1			
Pottawatomie.....			12				1		3			
Pratt.....			2					1				
Rawlins.....			2							1		1
Reno, <i>except</i>			6	1			1		1			1
Hutchinson.....			7						1			1
Republic.....			6			1	2					
Rice.....			1									
Riley.....		1	17				2		2	1		
Rooks.....			5						1	1		2
Rush.....			5						1			1
Russell.....			7						1			1
Saline.....			20	2			1		3	1		4
Scott.....												
Sedgwick, <i>except</i>			11				2		1			
Wichita.....	1		28	1	2		2	4	5	2		3
Seward.....			5		1							
Shawnee, <i>except</i>			10		1		1		4	1		
Topeka.....			23				3		2	2	1	2
Sheridan.....												
Sherman.....			2									1
Smith.....			2									
Stafford.....			5						1	2		2
Stanton.....												
Stevens.....												
Sumner.....			22		1		2			2		4
Thomas.....			6									1
Trego.....												
Wabaunsee.....			5									
Wallace.....												
Washington.....			14			2	1		2	1		1
Wichita.....			2		1							
Wilson.....			16						2	3		5
Woodson.....			5						3			
Wyandotte, <i>except</i>			17	2			2		1	1		2
Kansas City.....		1	67	3	2	4	3		6	3		11

TABLE No. 9—CONTINUED.

COUNTIES.	Traumatism in mines and quarries.....	Traumatism by machines.....	Railroad accidents....	Street-car accidents..	Automobile accidents.	Injuries by other vehicles.....	Landslides, other crushing.....	Injuries by animals...	Starvation.....	Excessive cold.....	Effects of heat.....	Lightning.....
Allen.....	1		3									1
Anderson.....		1	1									
Atchison, <i>except</i>			1	1	1			2				
Atchison city.....		1	1				1	1				
Barber.....			1		2							
Barton.....			1					1				
Bourbon, <i>except</i>							1					1
Fort Scott.....			1									
Brown.....					1							
Butler.....					1			1	1			
Chase.....			5									
Chautauqua.....												1
Cherokee.....	8		3									
Cheyenne.....								2				
Clark.....			1									1
Clay.....			1									1
Cloud.....								1				
Coffey.....			1									
Comanche.....												
Cowley.....		1	2		1	1						
Crawford, <i>except</i>	14		1	1					1			
Pittsburg.....	2		1	1	1							
Decatur.....					2							
Dickinson.....			1		2			2				
Doniphan.....			1					1				
Douglas, <i>except</i>		1	1				1					
Lawrence.....			1					1				
Edwards.....			2					1				
Elk.....		1	1									
Ellis.....			1									
Ellsworth.....					2							1
Finney.....		1	1									
Ford.....			3			1						
Franklin.....			2					1				
Geary.....			1	1				1				
Gove.....		1										
Graham.....			4									
Grant.....												
Gray.....												
Greeley.....												
Greenwood.....			1									
Hamilton.....												
Harper.....					1			1				
Harvey.....		1	3					2				
Haskell.....								1				
Hodgeman.....												
Jackson.....					1			1				
Jefferson.....			1					3				
Jewell.....					2							
Johnson.....			9		1			1				
Kearny.....					1			1				
Kingman.....		1				1						
Kiowa.....												
Labette, <i>except</i>			2									
Parsons.....			5									
Lane.....												
Leavenworth, <i>except</i>			2			1						
Leavenworth city.....	1	1	4							1		
Lincoln.....												
Linn.....	1											
Logan.....			1									
Lyon.....			3									
Marion.....							1	1				2
Marshall.....			1		1							
McPherson.....			3		1							
Meade.....			1					1				
Miami.....			3									
Mitchell.....					1					1		

TABLE No. 9—CONTINUED.

COUNTIES.	Traumatism in mines and quarries.....	Traumatism by machines.....	Railroad accidents....	Street-car accidents..	Automobile accidents.	Injuries by other vehicles.....	Landelides, other crushing.....	Injuries by animals...	Starvation.....	Excessive cold.....	Effects of heat.....	Lightning.....
Montgomery, <i>except</i> Coffeyville.....			4		3			1				
Independence.....					1		1	1				
Morris.....												
Morton.....												
Nemaha.....			2									
Neosho.....			3									
Ness.....		1										
Norton.....			1									
Osage.....			1									2
Osborne.....						1						
Ottawa.....			1									
Pawnee.....		1						1				
Phillips.....								1			1	
Pottawatomie.....								1				1
Pratt.....					1							
Rawlins.....												
Reno, <i>except</i> Hutchinson.....			2									
Republic.....			1		2							
Rice.....			1		1						1	
Riley.....			12									
Rooks.....			1									
Rush.....		1			1							
Russell.....			2		1		1					
Saline.....			1		1	1		2				1
Scott.....												
Sedgwick, <i>except</i> Wichita.....			2				1	3			1	
Seward.....			5		1			1				
Shawnee, <i>except</i> Topeka.....					2			1				
Thomas.....		1	6		2							
Sheridan.....								1				
Sherman.....												
Smith.....			1									
Stafford.....												
Stanton.....												
Stevens.....												
Sumner.....			3		1	1		1				2
Thomas.....			3		1			1				
Trego.....												
Wabaunsee.....			2		1			1				
Wallace.....												
Washington.....			2		2			1				
Wichita.....								1				
Wilson.....		3	2									
Woodson.....			1									
Wyandotte, <i>except</i> Kansas City.....		1	5		1							
			8	6	2							

TABLE No. 9—CONTINUED.

COUNTIES.	Electricity.....	Fractures..... (Cause not specified.)	Other external violence.....	Homicide, total.....	Homicide by firearms.	Homicide by cutting or piercing.....	Homicide by other means.....	Ill-defined organic diseases.....	Sudden death.....	Not specified or ill- defined.....
Allen.....			1					1	1	1
Anderson.....			1							2
Atchison, <i>except</i>										1
Atchison city.....		1		2	2			2		3
Barber.....			1	2	1	1			1	3
Barton.....	1	1	10							
Bourbon, <i>except</i>				1	1					
Fort Scott.....		1						1	1	1
Brown.....				1		1				2
Butler.....		1	1					1		1
Chase.....				1			1			1
Chautauqua.....			1							1
Cherokee.....		1	2	2	1	1				7
Cheyenne.....										1
Clark.....			1	1			1			1
Clay.....									1	3
Cloud.....		1		1	1					1
Coffey.....				1			1	1		1
Comanche.....		1								1
Cowley.....		2		2	1		1			2
Crawford, <i>except</i>			3	3	3				1	3
Pittsburg.....			3	1	1			1		1
Decatur.....										2
Dickinson.....	2			1	1					3
Doniphan.....										3
Douglas, <i>except</i>	1									1
Lawrence.....				4	3	1		1		
Edwards.....		1	1							1
Elk.....			2							1
Ellis.....				1		1				3
Ellsworth.....	1			2	2			1		1
Finney.....		1								
Ford.....			1	1	1				1	
Franklin.....			1	3	2	1				1
Geary.....		1	2	1	1					1
Gove.....			1							
Graham.....				1		1				3
Grant.....				1			1			
Gray.....										1
Greeley.....										
Greenwood.....		1		1	1					1
Hamilton.....										
Harper.....			1					1	1	2
Harvey.....		2	2	1	1				1	3
Haskell.....										
Hodgeman.....										
Jackson.....			2							12
Jefferson.....				1	1					
Jewell.....		1		2	2					
Johnson.....		1	1	2	1		1	1		1
Kearny.....										
Kingman.....				1			1	1		
Kiowa.....	1		1					1		
Labette, <i>except</i>				1			1	1		2
Parsons.....				4	3		1			1
Lane.....										1
Leavenworth, <i>except</i>				3	1	1	1			10
Leavenworth city.....			1	3	2		1		1	1
Lincoln.....		1								
Linn.....										
Logan.....										
Lyon.....	1		1	3	3			2		1
Marion.....								1		2
Marshall.....		1						1		1
McPherson.....				1			1			1
Meade.....										
Miami.....		1								
Mitchell.....		1	1							

TABLE No. 9—CONCLUDED.

COUNTIES.	Electricity.....	Fractures..... (Cause not specified.)	Other external violence.....	Homicide, total.....	Homicide by firearms.	Homicide by cutting or piercing.....	Homicide by other means.....	Ill-defined organic diseases.....	Sudden death.....	Not specified or ill- defined.....
Montgomery, <i>except</i>				4	2		2			3
Coffeyville.....				2	2					1
Independence.....	1			2	2					2
Morris.....			1							1
Morton.....										1
Nemaha.....		1	1		1			1		1
Neosho.....		1	3	1	1			2		2
Ness.....			1	1	1					
Norton.....		1								
Osage.....				2	1	1				
Osborne.....										
Ottawa.....			1	1			1			
Pawnee.....			2							
Phillips.....			1							1
Pottawatomie.....		1	5					1		3
Pratt.....				3	2		1			
Rawlins.....								2		
Reno, <i>except</i>				2			2			1
Hutchinson.....		1	1	4	4					3
Republic.....										3
Rice.....				1	1			1		
Riley.....										1
Rooks.....				1	1					
Rush.....			1						1	
Russell.....			2							2
Saline.....		2	1	2	2			1	1	5
Scott.....				1	1			2		
Sedgwick, <i>except</i>			1						1	1
Wichita.....		1	1	11	7		4	1		3
Seward.....		1	2							
Shawnee, <i>except</i>			1					1		
Topeka.....		1	2	9	6		3	3		10
Sheridan.....										
Sherman.....										
Smith.....		1								1
Stafford.....										2
Stanton.....										
Stevens.....								1		
Sumner.....		2	3	2	2				1	2
Thomas.....										
Trego.....										2
Wabaunsee.....			1	1	1					
Wallace.....				1	1					1
Washington.....			2					1		
Wichita.....										
Wilson.....			1	1	1				1	
Woodson.....			1							1
Wyandotte, <i>except</i>			3							2
Kansas City.....	1	3	4	20	15	2	3	1		4

TABLE No. 10. Showing the death rate per 100,000 population for certain diseases, by counties, 1914 and 1915.

COUNTIES.	Typhoid fever.		Measles.		Scarlet fever.		Whooping cough.		Diphtheria.	
	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.
The State.....	22.5	11.7	4.2	3.9	2.1	2.1	10.9	11.2	10.2	14.7
Allen.....	42.2	29.8	8.6	8.5	.....	.....	12.6	8.5	29.5	21.3
Anderson.....	39.4	.....	7.9	.....	.....	7.6	.....	15.1	15.7	7.6
Atchison, <i>except</i>	14.6	25.1	.....	.....	.....	.....	.....	16.7	14.6	8.4
Atchison city.....	54.8	19.7	6.1	.....	12.2	6.5	6.1	.....	6.1	13.1
Barber.....	19.8	10.9	.....	.....	.....	.....	9.9	.....	.....	54.3
Barton.....	32.1	.....	.....	.....	.....	5.6	26.7	16.7	10.7	22.2
Bourbon, <i>except</i>.....	.....	7.3	.....	7.3	7.3	.....	22.0	7.3	7.4	7.3
Fort Scott.....	31.9	26.3	.....	.....	8.4	.....	8.4	.....	8.4	8.8
Brown.....	39.0	4.8	4.9	4.8	4.9	4.8	4.9	24.1	14.6	14.5
Butler.....	24.9	.....	5.0	9.6	.....	4.8	19.9	.....	9.9	4.8
Chase.....	.....	.....	.....	.....	14.9	.....	.....	42.0	29.8	.....
Chautauqua.....	18.7	.....	.....	.....	.....	.....	.....	.....	28.0	35.6
Cherokee.....	16.6	27.1	13.8	5.5	.....	.....	19.1	27.1	11.0	44.0
Cheyenne.....	24.4	.....	.....	.....	.....	.....	.....	24.3	.....	24.3
Clark.....	.....	.....	24.8	.....	.....	.....	.....	.....	.....	23.3
Clay.....	19.7	6.6	6.6	.....	.....	.....	.....	6.6	6.6	.....
Cloud.....	5.0	.....	.....	5.2	.....	.....	.....	.....	5.0	15.5
Coffey.....	19.7	20.0	.....	.....	.....	.....	13.2	26.7	.....	.....
Comanche.....	24.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cowley.....	35.0	10.0	.....	13.8	.....	6.7	3.2	20.0	15.9	10.0
Crawford, <i>except</i>	41.8	18.8	2.5	9.4	2.5	2.3	22.1	28.2	34.4	23.5
Pittsburg.....	45.2	33.9	.....	5.6	5.6	.....	11.3	5.6	11.3	28.2
Decatur.....	.....	.....	.....	.....	.....	.....	.....	.....	14.6	13.3
Dickinson.....	19.9	4.0	.....	.....	.....	.....	4.0	11.9	7.9	7.9
Doniphan.....	25.8	6.9	.....	.....	.....	.....	19.3	6.9	6.5	27.6
Douglas, <i>except</i>.....	.....	.....	.....	.....	.....	.....	8.2	.....	.....	.....
Lawrence.....	15.2	7.8	15.2	.....	.....	.....	7.6	14.4	.....	.....
Edwards.....	14.8	14.9	.....	.....	.....	.....	14.8	29.7	.....	14.9
Elk.....	29.8	10.0	.....	.....	.....	.....	.....	10.0	9.9	29.9
Ellis.....	77.8	.....	.....	15.1	.....	7.6	15.7	22.7	15.7	15.1
Ellsworth.....	20.0	.....	.....	.....	.....	.....	10.0	.....	10.0	9.5
Finney.....	35.6	16.6	.....	.....	17.8	.....	.....	33.3	17.8	.....
Ford.....	49.6	38.0	8.8	.....	.....	7.6	24.8	30.4	8.3	7.6
Franklin.....	48.5	18.1	.....	.....	.....	.....	4.8	27.1	14.5	18.1
Geary.....	.....	.....	19.8	.....	.....	.....	.....	.....	9.9	.....
Gove.....	26.6	.....	.....	.....	.....	.....	79.5	24.9	.....	.....
Graham.....	.....	40.2	.....	13.4	.....	13.4	25.2	13.4	.....	.....
Grant.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gray.....	58.7	.....	.....	.....	.....	.....	.....	27.3	.....	27.3
Greeley.....	101.9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenwood.....	21.1	13.8	.....	.....	.....	.....	21.1	13.8	7.0	34.5
Hamilton.....	44.6	44.5	.....	44.5	.....	4.4	44.6	.....	.....	.....
Harper.....	76.9	15.0	.....	.....	.....	.....	23.0	.....	7.7	.....
Harvey.....	26.9	5.4	.....	5.4	.....	5.4	5.4	16.0	16.1	.....
Haskell.....	.....	.....	.....	.....	.....	.....	.....	100.6	.....	.....
Hodgeman.....	.....	.....	35.1	.....	.....	.....	.....	.....	.....	.....
Jackson.....	12.7	6.4	6.3	.....	.....	.....	.....	6.4	.....	12.7
Jefferson.....	25.5	.....	.....	.....	6.4	6.3	.....	6.3	6.4	6.3
Jewell.....	24.1	23.3	.....	11.6	.....	.....	12.0	.....	6.0	.....
Johnson.....	20.8	21.6	5.1	.....	.....	5.4	.....	10.8	.....	10.8
Kearny.....	142.2	43.8	.....	.....	.....	.....	47.6	.....	.....	.....
Kingman.....	.....	7.9	16.7	.....	.....	.....	.....	.....	.....	15.9
Kiowa.....	.....	31.0	.....	.....	.....	.....	15.9	.....	16.0	15.5
Labette, <i>except</i>	51.8	15.9	36.2	.....	5.2	.....	10.4	10.6	41.4	15.9
Parsons.....	.....	8.3	.....	8.3	.....	.....	.....	8.3	23.4	16.5
Lane.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.4
Leavenworth, <i>except</i>	20.9	10.8	.....	.....	.....	.....	10.5	.....	.....	16.2
Leavenworth city.....	9.4	9.1	14.1	.....	9.4	4.5	23.5	.....	14.1	18.1
Lincoln.....	.....	.....	.....	.....	19.6	.....	29.4	19.2	9.8	9.6
Linn.....	24.7	20.0	.....	.....	.....	6.7	6.2	6.7	30.8	13.3
Logan.....	35.5	.....	.....	.....	.....	.....	35.5	.....	.....	.....
Lyon.....	8.8	8.8	.....	18.9	.....	.....	7.6	.....	7.6	18.9
Marion.....	.....	13.9	.....	9.3	.....	.....	9.1	13.9	.....	18.5
Marshall.....	13.7	4.6	.....	.....	4.6	.....	.....	9.2	9.1	13.8
McPherson.....	.....	4.7	.....	.....	.....	18.9	4.8	4.7	4.8	14.1
Meade.....	19.9	.....	.....	.....	.....	.....	19.8	.....	.....	.....
Miami.....	10.8	21.4	.....	5.4	.....	.....	.....	10.7	.....	5.4
Mitchell.....	.....	14.6	.....	14.6	.....	.....	.....	.....	.....	.....
Montgomery, <i>except</i>	40.5	35.7	45.0	.....	9.0	.....	13.5	8.9	18.0	13.4
Coffeyville.....	.....	6.6	38.7	.....	.....	6.6	12.9	13.1	.....	26.3
Independence.....	65.8	41.2	43.9	.....	.....	.....	43.8	33.0	21.9	23.0

TABLE No. 10—CONTINUED.

COUNTIES.	Typhoid fever.		Measles.		Scarlet fever.		Whooping cough.		Diphtheria	
	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.
Morris.....	8.5	.....	.....	.....	.....	.....	8.5	8.5	.....	.....
Morton.....	189.9	.....	.....	57.7	.....	.....	.....	.....	.....	.....
Nemaha.....	10.3	5.5	.....	.....	5.2	.....	5.1	5.5	.....	5.5
Neosho.....	38.6	.....	.....	4.8	.....	4.8	12.9	21.6	21.4	17.3
Ness.....	.....	.....	.....	.....	.....	.....	16.5	18.1	16.5	.....
Norton.....	.....	.....	.....	.....	9.9	9.6	69.2	19.2	.....	9.6
Osage.....	5.0	5.0	.....	.....	.....	.....	10.0	5.0	5.0	.....
Osborne.....	15.7	.....	.....	7.7	.....	.....	15.7	.....	.....	15.8
Ottawa.....	8.8	.....	.....	.....	.....	.....	.....	25.8	.....	.....
Pawnee.....	76.2	34.7	.....	.....	.....	.....	.....	.....	.....	23.1
Phillips.....	7.9	.....	.....	15.2	.....	15.2	7.9	7.6	7.9	15.2
Pottawatomie.....	.....	.....	6.1	.....	.....	.....	6.1	12.4	.....	12.4
Pratt.....	27.3	8.6	.....	.....	.....	8.6	.....	8.6	9.1	25.8
Rawlins.....	36.9	.....	.....	.....	.....	.....	.....	17.5	.....	35.1
Reno, <i>except</i>	9.4	9.4	.....	4.7	.....	.....	28.3	9.4	4.7	.....
Hutchinson.....	37.8	20.8	.....	5.2	27.0	.....	.....	10.4	10.8	.....
Republic.....	5.8	11.8	11.6	5.9	.....	.....	5.8	11.8	.....	11.8
Rice.....	27.9	6.9	.....	20.8	.....	.....	28.0	17.5	7.0	27.7
Riley.....	5.7	.....	.....	.....	.....	.....	.....	.....	.....	6.1
Rooks.....	9.8	9.4	.....	.....	.....	.....	9.8	.....	.....	28.8
Rush.....	40.3	.....	.....	12.4	.....	.....	26.9	.....	.....	.....
Russell.....	.....	9.1	9.1	9.1	.....	.....	18.2	.....	.....	36.8
Saline.....	14.3	9.7	4.8	4.8	.....	4.8	4.8	9.7	.....	9.7
Scott.....	.....	4.4	.....	.....	.....	.....	45.5	.....	.....	.....
Sedgwick, <i>except</i>	10.5	.....	.....	5.1	.....	.....	15.7	10.2	5.2	10.2
Wichita.....	28.5	16.8	1.7	11.2	1.7	.....	8.4	13.1	1.7	3.7
Seward.....	.....	.....	.....	.....	.....	.....	23.8	.....	.....	22.2
Shawnee, <i>except</i>	14.8	11.2	.....	.....	.....	.....	4.9	5.6	19.7	.....
Topeka.....	10.0	30.0	4.0	2.1	.....	.....	6.0	8.6	12.1	21.4
Sheridan.....	.....	.....	.....	.....	.....	20.5	.....	20.5	.....	.....
Sherman.....	.....	.....	.....	.....	.....	.....	24.9	24.8	.....	.....
Smith.....	19.3	.....	.....	19.6	.....	.....	38.7	.....	19.4	32.7
Stafford.....	35.4	8.8	8.9	.....	.....	.....	.....	26.5	8.8	.....
Stanton.....	.....	.....	.....	.....	.....	.....	.....	121.5	.....	.....
Stevens.....	90.1	.....	.....	.....	.....	42.2	.....	84.4	45.0	.....
Sumner.....	14.4	10.7	7.2	3.6	.....	.....	7.2	.....	11.8	3.6
Thomas.....	28.3	.....	.....	.....	.....	.....	.....	.....	28.8	75.2
Trego.....	23.2	.....	.....	.....	.....	.....	.....	21.6	23.2	.....
Wabaunsee.....	.....	8.4	8.2	.....	.....	.....	.....	16.8	.....	8.4
Wallace.....	.....	.....	.....	.....	.....	.....	49.5	.....	.....	.....
Washington.....	10.3	5.3	.....	.....	.....	.....	.....	5.3	.....	.....
Wichita.....	.....	.....	.....	.....	.....	.....	.....	132.4	.....	.....
Wilson.....	36.8	9.9	.....	.....	5.3	.....	10.5	5.0	36.8	44.7
Woodson.....	32.8	10.7	.....	.....	.....	.....	.....	32.2	32.8	10.7
Wyandotte, <i>except</i>	21.4	10.6	5.3	.....	.....	5.3	21.4	15.9	16.0	26.5
Kansas City.....	25.2	16.4	4.5	3.3	9.2	4.4	19.5	14.2	18.3	28.4

TABLE No. 10—CONTINUED.

COUNTIES.	Tuberculosis (all forms).		Cancer (all forms).		Diabetes.		Cerebral Hemorrhage and paralysis.		Organic heart disease.	
	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.
The State.....	60.5	62.8	63.3	66.4	13.0	17.1	85.1	85.1	86.9	99.5
Allen.....	105.5	80.9	71.8	76.6	4.2	17.0	118.1	97.9	84.3	80.8
Anderson.....	31.5	45.1	78.6	90.3	47.2	15.0	55.1	75.2	70.8	157.8
Atchison, <i>except</i>	29.2	25.0	29.3	.....	7.3	16.8	58.3	66.7	51.1	25.0
Atchison city....	85.3	65.8	109.7	92.1	30.5	32.9	78.1	138.0	115.7	130.7
Barber.....	39.6	54.4	49.5	31.6	9.9	21.8	59.4	21.7	69.3	32.6
Barton.....	37.4	27.8	58.9	72.2	16.0	27.8	32.1	66.7	53.4	83.4
Bourbon, <i>except</i>	66.1	22.0	73.5	44.4	22.1	.....	44.1	51.4	14.7	58.8
Fort Scott.....	67.2	35.1	117.5	87.6	25.2	26.3	142.8	114.0	67.2	87.7
Brown.....	34.1	38.6	58.5	87.0	14.6	9.7	58.5	67.6	73.1	91.8
Butler.....	39.8	48.2	69.6	38.4	5.0	28.8	109.5	81.7	94.5	153.9
Chase.....	104.5	42.0	44.8	83.9	.....	28.0	74.8	42.0	119.4	55.9
Chautauqua.....	46.7	53.8	37.3	71.2	18.7	17.9	28.0	44.5	84.0	80.3
Cherokee.....	118.2	124.0	44.2	57.7	13.8	19.2	91.2	68.8	69.0	60.6
Cheyenne.....	.....	.....	48.9	48.7	.....	.....	24.5	24.4	24.5	97.3
Clark.....	24.7	23.3	24.7	46.6	.....	23.3	24.8	46.6	24.7	23.3
Clay.....	52.6	60.4	59.2	46.9	.....	20.1	59.2	120.7	92.0	107.4
Cloud.....	25.1	31.1	60.3	108.8	15.1	10.4	80.3	67.3	25.1	72.5
Coffey.....	65.8	20.0	39.7	93.4	13.2	26.6	92.1	106.7	78.9	106.6
Comanche.....	48.6	21.7	24.3	21.7	.....	21.7	48.6	43.3	97.3	21.7
Cowley.....	63.7	66.6	79.6	73.3	15.9	20.0	137.0	126.7	121.0	70.1
Crawford, <i>except</i>	34.4	42.2	49.2	47.0	9.8	14.1	56.5	49.2	44.2	56.3
Pittsburg.....	96.0	44.4	62.2	62.1	5.6	5.6	79.1	79.0	84.7	108.0
Decatur.....	43.9	40.0	43.9	66.7	14.6	13.3	131.7	93.3	29.3	80.0
Dickinson.....	55.6	27.7	59.5	47.4	4.0	7.9	55.5	94.9	55.5	122.6
Doniphan.....	45.1	55.0	58.1	34.5	.....	.....	77.4	75.8	103.1	117.2
Douglas, <i>except</i>	57.3	8.2	73.7	41.0	24.6	24.6	57.4	49.1	49.1	90.2
Lawrence.....	60.6	147.2	121.1	162.7	.....	15.5	181.8	147.1	113.6	93.0
Edwards.....	29.6	89.2	74.1	44.6	.....	.....	59.3	44.6	29.6	59.4
Elk.....	9.9	49.9	108.8	50.0	.....	.....	29.7	80.0	9.9	20.1
Ellis.....	39.4	22.7	70.8	45.4	7.9	.....	7.9	22.2	70.8	68.2
Ellsworth.....	30.0	28.5	70.0	104.8	10.0	9.5	60.0	66.7	90.0	123.6
Finney.....	142.3	149.6	17.8	83.2	17.8	.....	124.6	98.8	53.4	83.1
Ford.....	66.0	53.1	57.8	98.8	33.0	.....	148.8	45.8	57.8	136.9
Franklin.....	53.1	49.8	72.4	76.9	29.0	18.1	101.3	131.2	116.0	49.8
Geary.....	49.5	69.3	89.0	128.6	.....	29.7	108.8	69.2	79.2	59.4
Gove.....	.....	74.8	26.5	24.9	.....	.....	79.6	49.8	79.6	24.9
Graham.....	25.2	40.2	37.7	40.3	12.6	.....	37.7	40.4	50.3	53.6
Grant.....	.....	.....	.....	.....	.....	.....	115.5	111.1	.....	.....
Gray.....	.....	.....	29.3	.....	.....	.....	.....	27.2	29.3	54.5
Greeley.....	101.9	.....	.....	.....	.....	.....	101.3	109.5	203.7	.....
Greenwood.....	49.3	62.1	70.4	62.1	21.1	13.8	162.0	89.6	112.6	34.5
Hamilton.....	134.0	177.8	44.6	.....	.....	44.3	.....	88.9	134.0	.....
Harper.....	23.1	37.6	61.5	52.6	7.7	7.5	76.9	37.6	100.0	82.7
Harvey.....	43.0	48.1	91.3	107.1	26.9	26.7	134.3	106.9	96.8	149.6
Haskell.....	.....	.....	.....	.....	.....	.....	.....	201.0	.....	.....
Hodgeman.....	.....	31.6	.....	94.9	.....	.....	35.1	63.3	.....	.....
Jackson.....	88.6	70.0	88.6	76.4	31.6	19.1	94.9	101.8	113.8	159.2
Jefferson.....	31.8	44.3	70.1	63.3	6.4	12.7	101.9	159.2	70.0	88.6
Jewell.....	12.0	23.3	78.3	69.8	30.1	29.1	90.3	69.8	54.2	87.2
Johnson.....	66.0	32.4	86.3	43.2	25.4	27.0	86.3	140.5	126.9	91.8
Kearny.....	47.6	43.3	47.6	86.2	.....	.....	.....	86.2	142.8	43.3
Kingman.....	66.6	55.6	58.3	47.6	8.3	23.8	83.2	47.6	58.3	63.5
Kiowa.....	47.8	46.4	16.0	81.0	.....	15.5	47.8	77.4	47.8	92.9
Labette, <i>except</i>	57.0	89.9	62.1	100.5	20.7	21.1	67.3	174.6	41.5	68.8
Parsons.....	132.6	115.6	78.1	132.1	7.8	.....	101.5	105.6	140.1	140.5
Lane.....	47.4	.....	47.3	.....	.....	.....	.....	.....	94.7	94.3
Leavenworth, <i>except</i>	36.6	54.1	83.8	70.3	5.2	21.5	115.1	145.7	141.3	183.8
Leavenworth city,	93.9	136.4	89.2	91.9	9.4	13.6	112.6	86.0	150.1	122.2
Lincoln.....	.....	9.6	19.6	57.7	19.6	9.6	78.5	76.9	117.6	67.3
Linn.....	80.3	80.0	125.6	46.6	.....	13.3	67.9	80.0	98.6	93.3
Logan.....	35.5	99.8	35.5	.....	.....	.....	35.5	66.4	.....	132.8
Lyon.....	49.3	37.9	83.3	75.5	7.6	15.1	91.0	94.7	68.2	109.4
Marion.....	45.2	41.6	45.3	64.8	4.5	18.5	63.3	64.8	54.3	93.0
Marshall.....	54.8	18.4	36.5	59.8	9.1	18.4	82.2	101.2	128.0	82.8
McPherson.....	33.7	42.5	81.7	84.9	9.6	9.4	129.7	146.2	81.7	84.8
Meade.....	39.7	56.9	39.7	38.0	.....	57.0	19.8	19.0	59.5	37.9
Miami.....	87.0	123.0	51.3	58.8	25.6	16.1	194.8	213.8	273.0	379.5
Mitchell.....	21.0	21.9	55.9	80.3	14.0	.....	101.8	51.1	126.0	146.0
Montgomery, <i>except</i>	90.0	71.4	49.5	44.5	9.0	17.8	72.1	80.4	72.0	80.3
Coffeyville.....	38.7	79.0	51.6	52.6	6.4	39.5	83.9	92.1	90.4	72.3
Independence....	87.8	107.4	54.9	24.8	21.9	24.8	131.5	124.0	120.1	99.1

TABLE No. 10—CONTINUED.

COUNTIES.	Tuberculosis (all forms).		Cancer (all forms).		Diabetes.		Cerebral Hemorrhage and paralysis.		Organic heart disease.	
	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.
Morris.....	15.2	47.3	25.6	42.3	25.6	25.4	119.6	50.9	68.4	110.3
Morton.....		173.5		57.8						
Nemaha.....	56.7	52.8	36.1	76.6	5.2	10.9	67.0	65.6	87.5	109.2
Neosho.....	47.2	65.1	77.3	73.8	25.7	21.7	100.8	73.5	47.2	103.9
Ness.....	16.5	54.2	16.5	36.1			98.7	126.3	18.1	108.3
Norton.....	19.8	48.1	79.2	96.2	29.7	19.2	79.2	76.9	118.8	163.5
Osage.....	40.0	54.7	60.0	89.5	10.0	34.8	75.0	79.5	105.0	94.6
Osborne.....	8.2	30.8	78.7	53.9	7.8	23.1	94.5	84.7	102.4	77.1
Ottawa.....	43.8	34.5	61.4	51.7		34.5	122.8	112.0	87.6	77.6
Pawnee.....	51.0	57.8	63.7	34.7	12.7	11.6	114.6	115.5	51.0	127.2
Phillips.....	47.2	45.4	15.7	37.9	31.5	15.1	23.6	35.4	118.2	60.6
Pottawatomie.....	24.4	49.7	67.1	37.3	6.1	12.4	109.7	93.3	79.3	68.3
Pratt.....	72.6	25.8	9.1	68.9	18.2	17.2	72.7	68.9	90.9	69.0
Rawlins.....	18.5	17.5	55.3				73.8	52.6	129.6	87.7
Reno, <i>except</i>	33.0	18.9	56.6	28.3	9.4	14.1	99.0	51.9	51.9	37.7
Hutchinson.....	91.9	46.9	75.7	57.3	21.6	26.0	102.6	93.6	59.4	104.2
Republic.....	46.5	23.2	87.2	88.8	17.4	23.6	52.3	35.5	63.9	71.0
Rice.....	41.9	55.5	28.0	69.3	21.0	20.8	76.9	83.3	83.9	104.1
Riley.....	22.7	24.2	62.5	72.7		12.1	73.8	84.8	102.2	66.7
Rooks.....	29.4		49.0	18.9	29.4	28.3	58.8	66.0	78.8	37.7
Rush.....	13.5		13.5	24.8	26.9	12.4	26.9	86.6	80.8	49.6
Russell.....	54.5	45.3	90.9	45.4	9.1		45.4	145.3	63.5	72.8
Saline.....	76.5	74.6	52.6	77.3	19.1	14.5	76.5	72.4	47.8	67.6
Scott.....	90.9	43.7	45.4	87.3				43.6	45.4	
Sedgwick, <i>except</i>	36.6	25.4	26.2	45.4	15.7	20.3	52.3	91.3	52.3	71.1
Wichita.....	46.9	83.5	80.4	117.6	11.7	24.3	64.6	108.2	78.7	153.0
Seward.....	71.6	66.8		66.7				22.2	47.7	66.7
Shawnee, <i>except</i>	68.9	70.6	59.1	44.6		16.8	54.2	167.6	103.9	150.7
Topeka.....	98.4	95.4	106.4	72.8	14.1	25.7	168.6	103.4	174.6	205.5
Sheridan.....	46.2	61.6	23.0	20.5			115.2		69.1	41.1
Sherman.....	49.3	74.3	74.7	49.5	49.7		74.9		99.8	49.5
Smith.....	32.2	26.1	38.7	71.9	6.4	32.7	71.0	26.2	77.4	78.4
Stafford.....	53.1	35.1	35.4	43.8	17.7	8.8	44.2	70.2	124.0	131.5
Stanton.....							148.5			
Stevens.....		126.6		84.4			45.0	126.6	45.0	
Sumner.....	57.7	46.4	57.7	71.4	18.0	10.7	90.0	100.0	79.1	89.3
Thomas.....			28.3	75.0			85.0	50.0	170.0	100.0
Trego.....	23.2			21.7	23.2		69.6	43.2	46.4	86.6
Wabaunsee.....	57.3	75.6	73.7	42.0	8.2	25.2	90.1	58.8	114.8	117.6
Wallace.....		47.8	148.5			47.8	49.5	95.6		149.4
Washington.....	56.7	5.3	25.8	57.9	21.2		51.5	136.8	98.4	73.6
Wichita.....		65.8					70.9	197.5		131.5
Wilson.....	52.7	79.5	84.2	39.8		29.8	105.2	69.7	57.9	84.6
Woodson.....	76.5	32.2	43.7	107.1		10.7	109.3	75.1	32.8	96.5
Wyandotte, <i>except</i>	101.5	95.3	74.9	79.4	16.0	10.6	96.2	74.0	145.2	169.4
Kansas City.....	160.4	144.5	66.4	87.2	11.5	19.6	65.3	60.1	102.0	121.0

TABLE No. 10—CONTINUED.

COUNTIES.	Pneumonia and broncho- pneumonia (all forms).		Diarrhea and enteritis (under 2 years).		Diseases of the liver.		Bright's disease.	
	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.
The State.....	76.2	102.5	44.6	31.5	22.0	20.4	68.0	72.1
Allen.....	126.4	97.9	46.4	25.6	33.7	25.5	25.3	85.1
Anderson.....	47.2	75.1	15.7	37.6	15.7	22.6	47.2	52.6
Atchison, <i>except</i>	80.3	108.3	29.2	.....	14.7	25.1	80.9	41.7
Atchison city.....	79.3	144.6	12.2	32.9	30.5	32.7	140.1	65.3
Barber.....	59.4	76.1	19.8	21.8	9.9	21.7	39.6	32.6
Barton.....	69.5	72.3	80.2	66.7	37.4	11.1	32.1	72.3
Bourbon, <i>except</i>	58.8	117.6	22.1	7.4	36.7	7.3	36.7	73.5
Fort Scott.....	134.3	105.3	33.6	.....	50.2	85.1	117.6	87.6
Brown.....	53.7	72.5	92.7	19.3	9.8	19.3	53.7	96.6
Butler.....	34.8	67.3	69.7	43.3	19.9	19.6	54.7	48.1
Chase.....	44.8	125.8	29.4	41.9	.....	.....	104.5	41.9
Chautauqua.....	28.0	35.7	37.3	62.5	28.0	80.1	65.4	98.2
Cherokee.....	129.8	118.2	96.6	22.0	30.4	35.7	110.5	93.4
Cheyenne.....	98.0	48.2	24.5	48.7	.....	.....	.....	72.9
Clark.....	24.7	.....	.....	28.0	.....	23.3	74.6	69.9
Clay.....	65.7	60.4	19.7	26.8	26.8	33.6	52.6	53.7
Cloud.....	75.4	82.8	75.4	36.3	30.2	5.2	65.3	41.4
Coffey.....	85.5	93.3	26.3	20.0	26.3	13.3	39.7	53.3
Comanche.....	24.3	43.4	170.3	108.5	.....	.....	24.3	43.5
Cowley.....	73.3	93.3	38.2	23.3	25.5	33.4	92.7	66.7
Crawford, <i>except</i>	56.5	103.3	54.1	75.1	29.5	23.5	71.3	75.2
Pittsburg.....	56.5	135.6	90.3	34.0	39.5	84.7	135.6	192.0
Decatur.....	131.6	106.6	14.6	16.0	.....	13.3	29.3	106.6
Dickinson.....	43.7	79.1	23.8	15.8	19.9	7.9	67.5	71.2
Doniphan.....	71.0	131.1	38.7	63.9	12.9	20.6	70.8	103.4
Douglas, <i>except</i>	24.6	65.6	32.8	8.2	16.4	16.1	82.0	49.2
Lawrence.....	75.7	139.6	45.5	.....	45.5	7.7	68.1	118.5
Edwards.....	74.0	133.6	44.4	44.6	.....	14.9	44.4	89.1
Elk.....	89.6	100.0	69.2	30.0	29.8	20.0	79.2	80.0
Ellis.....	86.6	159.1	63.0	37.9	23.6	.....	31.5	37.8
Ellsworth.....	80.0	47.6	20.0	47.7	20.0	47.7	70.0	85.6
Finney.....	17.8	66.5	71.2	116.4	17.8	33.2	35.7	66.4
Ford.....	49.6	83.6	66.1	37.9	16.5	38.1	90.9	60.8
Franklin.....	96.6	144.7	62.8	22.1	29.0	27.1	111.0	153.8
Geary.....	128.6	89.1	29.7	39.6	19.8	9.9	98.9	79.2
Gove.....	53.0	99.8	26.5	.....	.....	.....	132.6	124.6
Graham.....	12.6	107.1	100.6	66.9	12.6	13.4	37.7	26.8
Grant.....	115.5	222.3	.....	.....	.....	.....	.....	.....
Gray.....	29.3	81.7	146.6	81.8	58.8	.....	.....	27.2
Greeley.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenwood.....	49.5	144.9	28.1	20.7	7.1	41.3	91.8	68.9
Hamilton.....	89.3	.....	44.6	88.9	.....	.....	.....	8.9
Harper.....	92.3	127.6	38.4	45.1	15.4	22.6	38.4	52.6
Harvey.....	75.2	58.8	37.6	21.3	48.4	5.3	75.3	69.5
Haskell.....	33.5	.....	111.5	100.5	.....	.....	.....	.....
Hodgeman.....	70.1	95.0	35.1	.....	.....	31.7	35.1	63.3
Jackson.....	63.2	64.1	44.3	6.4	31.6	12.7	50.4	38.2
Jefferson.....	57.3	132.8	38.2	12.7	12.7	12.7	38.2	88.6
Jewell.....	84.3	64.1	30.1	17.5	18.1	23.2	60.2	52.4
Johnson.....	76.1	113.6	35.5	16.2	5.1	21.6	60.9	70.3
Kearny.....	.....	43.2	.....	.....	.....	43.2	.....	129.3
Kingman.....	91.6	39.6	75.0	81.7	25.0	7.9	41.6	55.5
Kiowa.....	47.8	46.4	47.8	77.4	16.0	46.3	16.0	30.9
Labette, <i>except</i>	56.9	68.7	36.2	15.9	15.6	31.7	52.1	63.5
Parsons.....	164.0	198.2	23.4	41.3	23.4	8.3	78.1	90.9
Lane.....	94.7	141.5	.....	56.6	.....	.....	47.3	47.2
Leavenworth, <i>except</i>	78.5	194.5	15.7	10.8	10.5	10.8	41.8	86.5
Leavenworth city.....	140.7	140.3	23.5	27.2	23.5	4.5	93.9	72.4
Lincoln.....	78.4	48.1	9.8	19.2	19.6	19.2	49.0	105.6
Linn.....	37.0	140.0	12.3	46.6	30.8	.....	43.1	46.6
Logan.....	35.4	99.6	70.9	33.2	.....	.....	35.5	33.2
Lyon.....	75.7	98.2	67.0	34.0	3.8	7.6	75.7	113.2
Marion.....	36.2	88.0	40.7	41.7	13.6	9.3	45.2	60.2
Marshall.....	59.3	73.3	45.6	13.8	18.3	23.0	100.5	41.3
McPherson.....	67.3	70.8	38.4	33.0	28.8	51.9	48.1	66.0
Meade.....	39.2	38.0	59.5	37.9	19.9	18.9	19.9	37.9
Miami.....	169.5	155.0	15.4	21.4	15.4	32.1	77.0	96.3
Mitchell.....	21.0	102.2	34.9	21.9	6.9	7.3	28.0	80.3
Montgomery, <i>except</i>	49.5	75.6	36.0	44.6	31.5	22.3	45.0	35.7
Coffeyville.....	83.8	111.7	96.8	39.5	19.4	19.7	64.6	98.7
Independence.....	98.6	82.6	131.6	33.0	55.0	33.0	98.7	82.6

TABLE No. 10—CONTINUED.

COUNTIES.	Pneumonia and broncho- pneumonia (all forms).		Diarrhoea and enteritis (under 2 years).		Diseases of the liver.		Bright's disease.	
	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.
Morris.....	77.2	33.9	8.5	8.5	8.5	8.5	85.8	50.8
Morton.....		57.8	63.2	115.6				
Nemaha.....	25.7	103.8	56.7	16.4	10.8	21.9	41.2	65.5
Neosho.....	47.4	56.3	30.0	17.4	30.0	13.0	85.7	30.4
Ness.....	49.4	108.2	65.8	21.2	32.9	86.0	16.5	36.1
Norton.....	59.4	67.3	19.8		29.7	29.1	89.1	38.4
Osage.....	55.0	94.6	35.0	24.9	20.0	5.0	60.0	84.6
Osborne.....	70.9	92.4	47.2	23.1		23.1	46.8	77.1
Ottawa.....	43.8	94.8	26.3	34.5	17.5	8.6	35.1	86.2
Pawnee.....	89.2	127.2	51.0	34.7	51.0	11.6	22.3	80.9
Phillips.....	89.3	75.7	7.9	7.6	15.7	7.6	78.8	58.0
Pottawatomie.....	78.1	99.3	36.6	31.0	36.6	6.7	61.0	62.1
Pratt.....	27.3	25.9	81.8	57.3	9.1	17.2	45.4	60.3
Rawlins.....	92.5	87.7	55.3	35.1	18.5		18.5	17.6
Reno, <i>except</i>	61.3	56.6	42.4	23.5	9.4	4.7	51.9	51.9
Hutchinson.....	54.0	99.0	64.9	20.8	16.2	15.6	64.8	46.8
Republic.....	81.3	65.1	23.2	7.1	23.2	11.8	52.3	65.1
Rice.....	101.9	104.2	34.9	62.5	7.0	20.8	62.9	34.7
Riley.....	62.5	42.3	22.7	30.8		18.2	22.7	54.5
Rooks.....	59.0	66.0	39.2		29.5	9.4	107.6	37.7
Rush.....	40.4	74.4	106.2	12.4				12.4
Russell.....	63.5	109.2	36.3	36.3	27.2	18.1	18.2	27.1
Saline.....	57.5	135.2		29.0	24.0	4.8	28.7	53.1
Scott.....		43.7					45.5	43.7
Sedgwick, <i>except</i>	36.6	45.6	31.4	15.2	10.5	5.1	52.3	20.3
Wichita.....	58.6	117.4	45.2	35.5	31.8	42.4	98.8	72.8
Seward.....	71.6	66.7	47.7	88.8		44.4	47.7	44.4
Shawnee, <i>except</i>	69.1	94.8	29.5	5.6	9.8	11.2	39.5	39.3
Topeka.....	158.5	147.7	28.0	25.7	32.1	36.4	142.6	128.4
Sheridan.....	69.1	41.1	23.0		23.0	41.1	46.2	61.6
Sherman.....	74.7	123.8	49.8				74.6	74.2
Smith.....	77.4	124.2	38.7	19.6	32.2	26.1	57.9	52.3
Stafford.....	61.9	70.2	26.5	35.1	17.7	35.1	44.2	78.9
Stanton.....		121.3					148.5	
Stevens.....	135.7			84.4		42.2	135.3	42.2
Sumner.....	70.2	95.4	64.7	32.2	21.6	21.4	100.7	71.4
Thomas.....	56.7	25.1		75.0		50.0	141.6	125.0
Trego.....	69.6	129.8	46.4	43.8	23.2		46.4	21.7
Wabaunsee.....	49.2	42.0	16.4	42.0	24.6	8.4	16.4	42.0
Wallace.....		95.7						95.7
Washington.....	56.8	68.4	72.2	5.3	20.6	10.5	30.9	52.6
Wichita.....	70.9					65.4	70.9	
Wilson.....	89.5	99.5	73.7	34.8	36.8	19.9	21.0	44.7
Woodson.....	43.7	64.3	54.6	32.2	21.9	10.7	87.5	53.6
Wyandotte, <i>except</i>	101.6	116.3	32.1	31.8	16.0	10.6	134.0	111.1
Kansas City.....	154.6	222.3	63.0	65.4	26.4	18.6	95.2	109.1

TABLE No. 10—CONTINUED.

COUNTIES.	Early infancy and malformations.		Suicides.		Accidents.		Homicides.	
	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.
The State.....	86.5	83.3	11.7	11.2	61.2	57.9	6.0	7.7
Allen.....	71.7	46.8	8.4	.....	46.4	38.3	8.4	.....
Anderson.....	63.0	60.1	7.9	.....	31.5	75.4	.....	.....
Atchison, <i>except</i>	71.7	50.2	14.7	8.3	65.9	58.5	.....	.....
Atchison city.....	73.2	65.5	18.3	13.1	61.0	98.2	6.1	13.1
Barber.....	118.6	119.6	19.8	21.7	29.7	97.8	9.9	21.7
Barton.....	69.5	100.0	10.7	10.6	80.3	122.2	16.0	.....
Bourbon, <i>except</i>	78.5	80.9	7.4	14.7	44.1	29.4	.....	7.4
Fort Scott.....	84.1	122.7	8.5	26.3	75.6	105.2	.....	.....
Brown.....	92.6	67.6	29.3	9.7	48.8	14.5	4.9	4.8
Butler.....	114.5	43.2	9.9	9.6	49.8	52.9	5.0	.....
Chase.....	59.7	126.0	.....	42.0	104.5	139.8	14.9	14.0
Chautauqua.....	93.4	116.1	28.0	8.9	28.0	44.5	.....	.....
Cherokee.....	129.8	93.4	16.6	5.5	105.0	77.1	11.1	5.5
Cheyenne.....	73.6	72.9	.....	.....	24.5	73.0	24.5	.....
Clark.....	198.0	116.6	24.7	23.3	24.7	69.9	.....	23.3
Clay.....	118.5	87.3	6.6	6.7	46.0	47.0	.....	.....
Cloud.....	85.8	82.8	20.1	5.2	70.3	31.1	.....	5.2
Coffey.....	39.7	40.0	18.2	.....	52.6	33.4	.....	6.7
Comanche.....	73.0	130.2	.....	21.7	97.3	21.7	.....	.....
Cowley.....	86.2	50.0	16.0	13.3	95.7	70.0	6.3	6.7
Crawford, <i>except</i>	100.7	100.9	9.8	18.8	105.6	84.6	14.8	10.0
Pittsburg.....	135.6	56.6	22.5	11.8	146.7	101.6	16.9	5.6
Decatur.....	43.9	40.0	.....	.....	29.3	80.0	14.6	.....
Dickinson.....	95.3	63.3	19.8	4.0	31.7	79.0	.....	3.9
Doniphan.....	103.2	68.7	.....	.....	38.7	55.1	12.9	.....
Douglas, <i>except</i>	49.2	49.2	8.2	8.2	32.8	57.4	.....	.....
Lawrence.....	75.7	69.8	7.6	31.0	90.2	46.8	7.6	31.0
Edwards.....	163.0	59.4	.....	.....	44.4	104.0	14.8	.....
Elk.....	59.4	30.0	.....	.....	49.5	90.0	.....	.....
Ellis.....	141.6	166.6	7.9	7.6	47.6	45.4	.....	7.6
Ellsworth.....	80.0	95.2	10.0	28.5	120.0	57.2	.....	19.0
Finney.....	35.7	149.6	.....	16.6	.....	66.4	35.7	.....
Ford.....	99.0	68.5	.....	.....	115.6	60.8	16.5	7.6
Franklin.....	53.1	72.5	14.5	4.5	53.1	36.2	.....	13.6
Geary.....	69.3	19.8	9.9	39.6	49.5	119.9	9.9	9.9
Gove.....	53.0	174.5	53.0	.....	79.6	49.9	.....	.....
Graham.....	100.6	107.1	12.6	.....	37.7	80.5	.....	13.3
Grant.....	.....	111.1	115.5	111.1	.....	.....	.....	111.0
Gray.....	29.3	54.7	.....	.....	88.0	.....	.....	.....
Greeley.....	101.9	.....	.....	.....	.....	109.5	.....	.....
Greenwood.....	49.5	110.3	21.2	6.9	56.3	20.7	7.1	6.9
Hamilton.....	134.0	35.5	.....	.....	89.4	.....	.....	.....
Harper.....	38.4	105.2	15.4	22.5	77.0	30.1	.....	.....
Harvey.....	102.2	96.3	.....	5.3	107.4	90.9	5.4	5.3
Haskell.....	111.5	300.1	.....	.....	111.5	100.5	.....	.....
Hodgeman.....	21.1	189.6	.....	.....	35.1	.....	.....	.....
Jackson.....	113.9	95.5	.....	12.7	31.6	38.2	6.3	.....
Jefferson.....	108.3	88.6	6.4	19.0	70.1	76.0	.....	6.3
Jewell.....	102.4	46.5	6.0	5.8	24.1	58.2	.....	11.6
Johnson.....	30.4	59.4	10.2	10.8	76.1	102.8	5.1	10.8
Kearny.....	47.6	.....	.....	.....	238.1	178.2	.....	.....
Kingman.....	91.6	119.1	8.3	15.9	16.7	23.8	.....	7.9
Kiowa.....	143.6	154.8	.....	15.5	31.9	30.9	.....	.....
Labette, <i>except</i>	62.3	42.3	.....	10.6	46.6	31.7	5.2	5.3
Parsons.....	117.1	82.6	.....	8.3	109.4	49.6	15.6	33.1
Lane.....	.....	47.2	.....	.....	47.3	94.3	.....	.....
Leavenworth, <i>except</i>	78.5	32.4	10.5	37.8	57.6	48.2	5.2	16.6
Leavenworth city.....	103.3	63.3	4.7	9.0	79.8	58.8	9.4	13.6
Lincoln.....	78.4	48.1	.....	.....	39.2	96.1	.....	.....
Linn.....	30.8	60.0	6.2	33.3	37.0	33.2	6.2	.....
Logan.....	.....	166.1	.....	33.2	106.4	133.0	.....	.....
Lyon.....	45.5	60.4	3.8	7.5	30.2	49.1	7.6	11.3
Marion.....	117.6	115.7	9.0	13.9	86.0	37.0	4.5	.....
Marshall.....	127.9	101.2	9.1	13.8	45.6	41.4	4.6	.....
McPherson.....	72.1	70.8	9.6	9.4	38.6	37.5	.....	4.7
Meade.....	59.5	94.6	.....	.....	39.7	37.9	19.8	.....
Miami.....	41.0	90.4	10.3	21.4	51.3	53.5	10.3	.....
Mitchell.....	62.9	109.5	14.0	.....	83.9	72.9	.....	.....
Montgomery, <i>except</i>	112.6	102.6	.....	8.9	81.1	40.1	9.0	17.8
Coffeyville.....	90.4	72.4	12.9	13.1	38.7	39.5	.....	13.2
Independence.....	197.3	90.6	.....	8.3	164.5	66.1	21.9	16.5

TABLE No. 10—CONCLUDED.

COUNTIES.	Early infancy and malformations.		Suicides.		Accidents.		Homicides.	
	1914.	1915.	1914.	1915.	1914.	1915.	1914.	1915.
Morris.....	99.6	118.6	.....	.....	34.2	33.9	.....	.....
Morton.....	.....	.....	.....	.....	.....	.....	.....	.....
Nemaha.....	118.6	76.5	15.5	21.9	46.3	37.2	5.1	.....
Neosho.....	85.7	73.7	21.4	.....	81.5	52.0	21.4	4.3
Ness.....	32.9	144.4	.....	18.1	32.9	72.2	.....	18.0
Norton.....	79.2	115.3	.....	.....	29.7	57.7	.....	.....
Osage.....	50.0	79.7	5.0	14.9	45.0	54.7	10.0	10.0
Osborne.....	55.2	77.1	7.9	.....	15.7	38.5	.....	.....
Ottawa.....	52.6	112.1	8.8	.....	26.3	43.1	.....	8.6
Pawnee.....	153.0	92.5	12.7	23.1	104.6	92.4	.....	.....
Phillips.....	55.2	45.4	.....	15.1	39.3	37.9	.....	.....
Pottawatomie.....	85.3	43.5	6.1	6.2	61.0	74.6	.....	.....
Pratt.....	173.0	129.2	9.1	.....	90.8	17.2	9.1	25.9
Rawlins.....	110.7	87.7	55.4	.....	73.8	35.1	.....	.....
Reno, <i>except</i>	70.8	70.8	9.4	9.4	42.4	28.3	.....	9.4
Hutchinson.....	97.3	104.2	27.0	20.8	43.2	36.5	16.2	20.8
Republic.....	52.3	71.0	23.2	11.8	52.3	35.5	.....	.....
Rice.....	90.9	55.5	14.0	13.9	41.9	69.5	.....	6.9
Riley.....	73.9	48.5	5.7	18.2	68.1	103.0	.....	.....
Rooks.....	98.1	94.3	.....	9.4	68.7	47.2	.....	9.4
Rush.....	107.6	161.2	26.9	24.8	94.1	62.0	.....	.....
Russell.....	109.1	127.3	18.2	9.1	54.5	63.5	.....	.....
Saline.....	52.7	82.1	14.4	14.5	38.2	96.7	.....	9.7
Scott.....	136.3	174.6	.....	.....	.....	.....	.....	4.4
Sedgwick, <i>except</i>	120.5	76.2	5.2	5.1	26.2	55.9	5.2	.....
Wichita.....	72.1	91.4	11.7	18.6	58.6	52.2	11.7	20.5
Seward.....	167.2	66.7	.....	.....	23.8	99.9	.....	.....
Shawnee, <i>except</i>	44.4	72.6	9.9	5.6	19.7	55.8	.....	.....
Topeka.....	80.3	94.2	22.1	12.9	70.3	49.2	8.0	19.3
Sheridan.....	46.2	185.0	.....	.....	46.2	.....	.....	.....
Sherman.....	24.9	49.5	.....	.....	49.7	49.5	.....	.....
Smith.....	128.6	98.0	.....	6.5	42.2	13.1	6.5	.....
Stafford.....	115.0	96.6	.....	8.8	44.2	43.9	.....	.....
Stanton.....	.....	121.5	.....	.....	297.5	.....	.....	.....
Stevens.....	180.2	.....	.....	.....	90.1	.....	.....	.....
Sumner.....	108.0	103.6	14.4	3.6	64.7	73.6	.....	7.1
Thomas.....	56.6	100.0	.....	.....	226.5	150.1	28.3	.....
Trego.....	69.6	129.7	.....	.....	46.4	.....	23.2	.....
Wabaunsee.....	90.3	109.2	16.4	33.6	32.7	42.0	.....	8.4
Wallace.....	.....	191.4	.....	.....	99.0	.....	.....	50.0
Washington.....	56.8	31.5	10.3	10.5	20.6	73.7	.....	.....
Wichita.....	.....	65.8	.....	.....	141.8	131.5	.....	.....
Wilson.....	105.3	74.6	26.3	14.9	52.6	79.6	5.3	5.0
Woodson.....	43.7	42.9	31.8	10.7	54.6	53.6	.....	.....
Wyandotte, <i>except</i>	80.2	105.8	21.4	.....	64.1	89.9	10.7	.....
Kansas City.....	103.1	91.7	22.9	15.3	83.6	73.1	14.9	21.8

TABLE No. 11. Showing causes of death, by age and sex, 1914.

CAUSE OF DEATH.	Under 1 year.		1-2.		3-4.		5-9.		10-14.		15-19.		20-24.		25-29.		30-34.		35-39.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Typhoid fever.....	5	1	2	8	4	3	10	9	11	16	13	27	41	23	29	14	21	8	7	6
4. Malaria.....	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	3	1	1
5. Smallpox.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6. Measles.....	7	10	18	4	8	2	8	2	1	4	1	2	2	2	1	1	1	1	1	3
7. Scarlet fever.....	1	1	4	3	4	4	8	3	3	3	2	2	1	1	1	1	1	1	1	1
8. Whooping cough.....	43	57	26	43	6	2	19	23	4	2	2	3	2	4	1	1	1	1	1	1
9. Diphtheria and croup.....	6	4	22	21	21	27	1	2	1	1	1	1	1	1	1	1	1	1	1	1
10. Influenza.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14. Dysentery.....	2	4	4	3	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1
18. Erysipelas.....	7	12	2	2	2	1	3	2	2	1	5	5	1	7	2	1	4	7	6	3
20. Purulent infection, septicemia.....	2	4	2	2	2	1	3	2	2	1	1	1	1	1	2	1	1	1	1	1
22. Anthrax.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23. Rabies.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24. Tetanus.....	2	1	1	1	1	1	10	1	3	1	1	1	1	2	2	1	1	1	1	1
25. Mycoses.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26. Pellagra.....	2	2	1	1	1	2	2	2	3	7	21	37	65	56	59	59	64	57	56	62
28. Tuberculosis of lungs.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29. Acute miliary tuberculosis.....	3	1	2	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30. Tuberculous meningitis.....	1	1	1	1	1	2	1	1	1	2	2	3	1	3	1	4	2	2	2	3
31. Abdominal tuberculosis.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32. Pott's disease.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
33. White swellings.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34. Tuberculosis of other organs.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35. Disseminated tuberculosis.....	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
36. Rickets.....	5	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
37. Syphilis.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
38. Gonococcus infection.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
39. Cancer of buccal cavity.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
40. Cancer of stomach and liver.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
41. Cancer of peritoneum, intestines, rectum.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
42. Cancer of female genital organs.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
43. Cancer of breast.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
44. Cancer of skin.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
45. Cancer of other or unspecified organs.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
46. Other tumors.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
47. Acute articular rheumatism.....	1	2	2	1	3	2	2	7	5	4	2	7	3	3	3	1	3	2	2	2
48. Chronic rheumatism.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
50. Diabetes.....	1	1	1	1	1	1	6	10	3	7	3	1	4	2	4	4	4	2	1	4
51. Exophthalmic goitre.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
52. Addison's disease.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
53. Leukemia.....	1	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1

[illegible]

[illegible]

TABLE No. 11--CONTINUED.

CAUSE OF DEATH.	40-44.		45-49.		50-59.		60-69.		70-79.		80-89.		90-99.		100 and over.		Un- known.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Typhoid fever.	9	8	4	8	15	5	9	6	7	7	1	2						
4. Malaria					1	1	2	3	3	3	1	1						
5. Smallpox			1				1				1							
6. Measles	1		1			2		1										
7. Scarlet fever																		
8. Whooping cough																		
9. Diphtheria and croup																		
10. Influenza	1			1	5	1	5	5	10	11	9	7	1	1				
14. Dysentery		1	1		1	1		2	4	7	3	2						
18. Erysipelas			1	1	1	1	1	2	1	3	3	1	1					
20. Purulent infection, septiemia	2	4	1	4	12	1	5	2	6	3	2	1						
22. Anthrax				1														
23. Rabies																		
24. Tetanus			1	2	3	1	1	2	1	1								
25. Mycoses																		
26. Pellagra	1	1	1	4	2	3		1	3									
28. Tuberculosis of lungs.	41	32	25	20	80	27	41	25	16	16	3	2						
29. Acute miliary tuberculosis	2	1	1				1	1										
30.	3	4	2	1	1	2	2	4	8									
31.					2	2	2	1										
32.					1	1		1										
33.					1	1		1										
34.	1	2	1	2	6	3	3		2		1	1						
35.									1									
36.																		
37.	1	1	1	3	3	1			3		1							
38.																		
39.																		
40. Cancer of stomach, liver	8	6	15	1	5		10	77	7	1	2	17	1	1				
41. Cancer of peritoneum, intestines, rectum	3	3	5	7	40	52	94	38	64	38	9	17						
42. Cancer of female genital organs		12		10	12	27	17	23	20	10	1	3						
43. Cancer of breast		12		10		25		28		14								
44. Cancer of skin		1	3	3		21		21		11		12		1				
45. Cancer of other or unspecified organs	4	3	4	3	20	19	39	16	43	17	2	2	4					
46.											18	7						
47.	3	1	3	1	1	4	9	5	12	11	4							
48.																		
50. Diabetes		1	3	1	3	4	5	6	12	13	2	4		1				
51. Exophthalmic goitre	4	2	3	2	4	5	5	6	12	13	2	4						
52. Addison's disease	1	1		2	18	17	38	25	22	18	6	5						
53. Leukemia	4	1	1			5	1	8	1	2								

[illegible]

TABLE No. 12. Showing causes of death, by age and sex, 19 15.

CAUSE OF DEATH.	Under 1 year.		1-2.		3-4.		5-9.		10-14.		15-19.		20-24.		25-29.		30-34.		35-39.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Typhoid fever.....	1	1	8	3	2	3	10	4	6	9	12	15	18	13	6	5	10	4	9	6
4. Malaria.....			1	4				1	1		1	1			3	1	1	2		1
5. Smallpox.....	7	12	12	9	7	4	1	3	1	1	1		1	1	1					
6. Measles.....	3	5	3	3	1	4	6	4	2	2										
7. Scarlet fever.....	55	21	30	30	5	10	8	5	1				1	3		1				
8. Whooping cough.....	7	29	26	26	32	23	39	40	11	20	1	1	1	3		1				
9. Diphtheria and croup.....	4	4	2	2			2	8		2	2	2	3	3		3	4			2
10. Influenza.....		1											1	1						
14. Dysentery.....	6	11											1	1		1	1			2
18. Erysipelas.....	3	2	3	4	1	3	3	2	2	2	3	6	4	8	1	1	4	4	1	4
20. Purulent infection and septicaemia.....																				
23. Rabies.....	1	1		1	2	2	5	1	1	2			1							
24. Tetanus.....																				
25. Mycoses.....																				
26. Pellagra.....	2	1																		
28.																				
29.	2	2	4	1		1	2		3	9	23	49	47	70	1	1	34	2	55	38
30.	2	1								1	1		2	1	2	1	1	2	3	2
31.	2	1	4	2	2	2	1		1	1			2	2	1	2	2	2	2	1
32.																				
33.																				
34.	1			1					1	1			1		1	1	2	2	1	1
35.																				
36. Rickets.....	2	1		1		1														
37. Syphilis.....	3	3	2	1		1					1	3	8	1	3	1	4	3	6	2
38. Gonococcus infection.....																				
39. Cancer of buccal cavity.....																				
40. Cancer of stomach and liver.....				1			2													
41. Cancer of intestines, etc.....										1	1		1	1		2	1	1	3	5
42. Cancer of female genital organs.....																3		3	5	4
43. Cancer of breast.....																				
44. Cancer of skin.....																				
45. Cancer of other organs.....		1			2	2	3	1	1	1			2		2	3	3	6	4	3
46. Other tumors.....																				
47. Acute articular rheumatism.....					2	1	6	7	3	7	7	5			2	1	3	1	5	3
48. Chronic rheumatism.....										6										
50. Diabetes.....	1				3	1	5	2	3	1	3	3	4	2	2	1	4	1	7	3
51. Exophthalmic goitre.....		1																		
52. Addison's disease.....																				
53. Leucemia.....						1														
54. Anemia.....		1	2	1			2	1	1	1	2	1	3	1	1	2		2	1	3

TABLE NO. 12—CONTINUED.

CAUSE OF DEATH.	40-44.		45-49.		50-59.		60-69.		70-79.		80-89.		90-99.		100 and over.		Un-known.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1. Typhoid fever.....	8	7	6	2	7	4	7	4	2	2	2						
4. Malaria.....	1		2	1	1		1	1		1							
5. Smallpox.....	1				1	1			1	1							
6. Measles.....		2		2		1			1								
7. Scarlet fever.....				1													
8. Whooping cough.....									1								
9. Diphtheria and croup.....			1	1	1	3			39	40	29	31	6	7	1	1	
10. Influenza.....		1	3	1	7	9	13	25	2	2	1	3					
14. Dysentery.....	1				1	1	2	2	3	1	2	2	1				
18. Erysipelas.....			1		1		3	2	3	1	2	2	1				
20. Purulent infection and septicæmia.....	4	2	4	9	6	2	6	1	3	1	4		1			1	
23. Rabies.....																	
24. Tetanus.....		1	2		2	4		1	1	1							
25. Mycoses.....	1																
26. Pellagra.....		1		3		5	1	2			1						
28. Tuberculosis of the lungs.....	49	27	27	23	59	31	39	28	25	17	1	5				1	
29. Acute miliary tuberculosis.....	1		1		1		1		1								
30. Tuberculous meningitis.....		1															
31. Abdominal tuberculosis.....	3	2	1	1	4	1	1	5		1		2					
32. Pott's disease.....			1	1	1	1	1	2	1								
33. White swellings.....					1			1		1	1						
34. Tuberculosis of other organs.....	2	1	1	1	2	1	2		1		1						
35. Disseminated tuberculosis.....																	
36. Rickets.....									1	1							
37. Syphilis.....	5	3	4	3	6	2	3		1	1							
38. Gonococcus infection.....																	
39. Cancer of buccal cavity.....	1		1		8	1	7	2	7	3	1						
40. Cancer of stomach, liver.....	7	10	13	16	54	42	71	65	83	62	15	10					
41. Cancer of intestines, etc.....	6	1	1	9	13	12	15	25	12	23	4	8					
42. Cancer of female genital organs.....		9		19		30		27		14		2					
43. Cancer of breast.....		8		14		19		16		12		5					
44. Cancer of skin.....		1	1	1	4	1	5	1	12	1	4	6					
45. Cancer of other organs.....	2	6	10	11	14	18	42	19	43	13	16	2					
46. Other tumors.....	1			1	1	1	2	1	1	4							
47. Acute articular rheumatism.....	3	4	2	3	9	8	7	6	13	10	4	2	1				
48. Chronic rheumatism.....	1	1		2	3	2	4	6	10	10	2	11		1			1
50. Diabetes.....	2	4	11	5	16	26	27	42	35	29	8	9	1				1
51. Exophthalmic goitre.....				4		4		5	2	1							
52. Addison's disease.....								1									
53. Leuchæmia.....	3	1	3	1	3	2	2		1		1						
54. Anæmia.....	2	7	1	7	12	12	17	15	13	6	1	2					

55. Other general diseases	6	4	18	4	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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TABLE No. 13. Showing causes of death, by color, nativity and conjugal condition, 1914.

	condition.				
	Wid- wed.	Di- vored.	Un- known.		
1. Typhoid fe	15	4	5		
4. Malaria	7				
5. Smallpox	2				
6. Measles			1		
7. Scarlet fever					
8. Whooping					
9. Diphtheria					
10. Influenza	28				
14. Dysentery	9		1		
18. Erysipelas	8				
20. Purulent infection, septicaemia	10	2	1		
22. Anthrax					
23. Rabies	4				
24. Tetanus	1				
25. Mycoses	2				
26. Pellagra	14	1			
28. Tuberculosis of lungs	88	19	22		
29. Acute military tuberculosis	2				
30. Tuberculous meningitis	1				
31. Abdominal tuberculosis	1	2	1		
32. Pott's disease	3	1			
33.	1				
34.	1				
35.	1				
36. Syphilis	4	1			
37. Gonorrhea					
38. Gonococcus infection	3				
39. Cancer of buccal cavity	20				
40. Cancer of stomach, liver	109	5	9		
41. Cancer of peritoneum intestines, rectum	29	2	1		
42. Cancer of female genital organs	30	4			
43. Cancer of breast	28	1			
44. Cancer of skin	5				
45. Cancer of other, or unspecified organs	52		2		
46. Other tumors	2				
47. Acute articular rheumatism	22				
48. Chronic rheumatism	22	1			
50. Diabetes	41	3	4		
51. Exophthalmic goitre	3	1			
52. Addison's disease	3				

[illegible]

TABLE No. 14. Showing causes of death, by color, nativity and conjugal condition, 1916.

CAUSE OF DEATH.	Color.				Nativity.			Conjugal condition.				
	White.	Indian.	Yellow.	Black.	Native.	Foreign.	Un- known.	Single.	Mar- ried.	Wid- owed.	Di- vorced.	Un- known.
1. Typhoid fever	179			16	182	12	1	101	86	7	1	
4. Malaria	22			4	21	3	2	11	11	2		2
5. Smallpox	7			1	7	1		1	5	2		
6. Measles	64			1	62	3		56	8	1		
7. Scarlet fever	85				84		1	33	3			
8. Whooping cough	175			13	187			186	2			
9. Diphtheria and croup	239			6	241	4		231	13	1		
10. Influenza	220			23	200	44	4	37	103	101		2
14. Dysentery	17				11	6		4	7	5		1
18. Erysipelas	41			1	35	6	1	22	12	7		1
20. Purulent infection and septicaemia	103			6	95	11	2	45	52	5	3	3
23. Rabies	3				3			2		1		
24. Tetanus	29			6	28	6		21	10	3		
25. Mycoses	1				1				1			
26. Pellagra	19			3	21	1		3	14			
28. Tuberculosis of the lungs	695	6		142	795	41	7	296	435	86	18	8
29. Acute military tuberculosis	12			7	16	3		9	10			
30.	21				18	3		14	6	1		1
31.	43	1		8	47	4	1	29	17	5		1
32.	13				13			5	4	3		
33.	7				6	1		2	4	1		
34.	20			1	16	5		6	14	1		
35.	2				2				2			
36. Rickets	53			15	54			7	23	11	3	1
37. Syphilis	1			1	2	4		30	2			
38. Gonococcus infection	33				23	5		3	21	8		1
39. Cancer of buccal cavity	453			17	343	126	2	39	281	127	5	9
40. Cancer of the stomach, liver	139		1	4	110	32	1	6	91	43	3	
41. Cancer of intestines, etc.	104			9	96	16	1	4	75	32	2	
42. Cancer of female genital organs	80			3	74	8	1	8	48	27		
43. Cancer of the breast	37				32	3	2	3	22	10		2
44. Cancer of the skin	225	1		5	189	41	1	29	143	65	3	1
45. Cancer of other organs	17			1	13	4	1	4	11	3		
46. Other tumors	122			4	109	16	1	44	62	17	1	2
47. Acute articular rheumatism	55			2	43	14		7	29	21		
48. Chronic rheumatism	272			14	244	39	3	53	155	58	2	3
50. Diabetes	27			1	24	3	1	6	14	6		
51. Exophthalmic goitre	3				2				2			
52. Addison's disease	27				27		1	8	19	1		
53. Leucæmia				1								

Other general diseases	42	3	1	10	4	12	19	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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TABLE No. 14--CONCLUDED.

CAUSE OF DEATH.	Color.				Nativity.			Conjugal condition.				
	White.	Indian.	Yellow.	Black.	Native.	Foreign.	Un- known.	Single.	Mar- ried.	Wid- owed.	Di- vorced.	Un- known.
104. Diarrhea and enteritis (under 2 years).	500		1	26	525	2		527	110	57	1	2
105. Diarrhea and enteritis (2 years and over).	286	1		17	258	41	5	184	70	7	3	
108. Appendicitis	178			4	170	7		97	18	8	1	1
109a.	29			3	25	7		4	31	34	1	
109b.	159			7	145	21		50	81			
110.	3			1	1	3		2	4			
111.	14				11	3			9	3		
112.	1					1			1			
113.	101			8	94	14	1	12	58	35	2	2
114.	72				62	10	1	4	50	17	1	
115.	135			10	117	24	4	17	38	36	3	1
116.	2			1	3				3			
117.	49			4	49	4		19	29	2	2	1
118.	5				4	1		1	3	1		
119.	80			8	80	7	1	45	33	10		
120.	3,190	1		96	986	218	22	120	684	380	12	10
122.	27				22	4	1	6	15	5		1
123.	2				2				1	1		
124.	33				27	5		4	20	8		1
126.	104			3	86	21		5	62	40		
127. Nonvenereal diseases of the male genital organs	1				1				1			
128.	5				5			1	4			
129.	17			1	15	2	1	5	9	4		
130.	8				8			5	2	1		
131.	16			2	17	1		3	12	3		
132. Ovary of the fe-												
134.	18			1	17	2		4	12	3		
135.	26			1	23	4			26	1		
136.	3			1	3	2			10			
137.	30				16	4			20			
138.	87	1		7	85	10		2	90	8		
139. Ovarious	65			2	63	4		1	66			
na, embolus,												
140.	18			2	17	3			20			
142.	5				4	1			5			
143.	46			3	30	18	1	3	25	20		1
144. Acute abscesses	6				4	2		1	4	1		
145. Other diseases of the skin and adnexa.	3				2	1		1	3			
	4				3	1		2	1	1		

TABLE No. 16. Showing the causes of death and month of occurrence, 1914.

CAUSES OF DEATH.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1. Typhoid fever.	21	9	9	12	10	20	27	58	46	48	47	32
4. Malaria.		1		1	2	4	6	4	2	2	2	1
5. Smallpox.		1				1						1
6. Measles.		5	17	14	16	8	3	4			3	1
7. Scarlet fever.		2	9	5	4	4	3				2	1
8. Whooping cough.	5	10	16	21	27	28	22	22	7	8	12	10
9. Diphtheria and croup.	12	8	4	8	3	5	5	6	8	42	35	34
10. Influenza.	15	12	11	10	2	2	1	3	16	4	2	2
14. Dysentery.	1	3	5	1	1	3	3	18	3	1		1
18. Erysipelas.	6	5	10	5	1	5	1	4	3	5	6	1
20. Purulent infection and septicaemia.	7	5	10	9	7	5	10	15	9	4	11	11
22. Anthrax.									1			
23. Rabies.			3	2			1	1	3			
24. Tetanus.		2			5	5	4	6		2	2	1
25. Mycoses.		1						1				1
26. Pellagra.		1		1	5	2	2	1	3			2
28. Tuberculosis of lungs.	1	61	91	33	85	63	73	59	55	76	79	71
29. Acute miliary tuberculosis.	76	2	1	1	2	2	3	1	3	1	1	2
30. Tuberculous meningitis.	2	2	2	2	3	2	3	3	1	1	1	2
31. Abdominal tuberculosis.	3	2	2	3	8	6	3	6	3	5	2	5
32. Pott's disease.	2				1	2	1		1			
33.	2	3	1		1	2		3	1	2	2	6
34.	1		3		4	1	1		1	5		
35.	1					1					1	
36. Rickets.				1		2	7	7		6		8
37. Syphilis.		2	3	6	4	1			4		1	
38. Gonococcus infection.		5		1					1			
39. Cancer of buccal cavity.			3	2					1	4	6	1
40. Cancer of stomach, liver.	3	28	31	45	7	36	37	49	31	38	36	49
41. Cancer of peritoneum, intestines, rectum.	40	5	11	18	39	19	7	11	10	18	13	9
42. Cancer of female genital organs.	12	8	5	11	12	8	13	9	6	4	8	9
43. Cancer of breast.	11	10	10	12	14	7	11	5	3	7	5	3
44. Cancer of skin.	6	2				1		1	6	1	2	3
45. Cancer of other or unspecified organs.	4	19	18	30	28	15	19	15	17	21	11	21
46. Other tumors.	15									1		1
47. Acute articular rheumatism.	2									1		1
48. Chronic rheumatism.	3	3	18	3	16	10	9	7	6	10	6	11
50.	1	7	10	5	7	4	2	5	4	3	5	7
51.	22	21	18	10	15	22	16	14	10	26	17	27
52.	1	1	5	3	2	4	7	1	1	3	1	
53. Leukemia.		3	8	2	6	4	4	2			3	1
54. Anemia chlorosis.	2			7	13	10	7	5	3	7	12	3
55. Other general diseases.	11	4	1	1	1	1		3	3	1		1
56. Alcoholism.	1	3	7	3	3	6	2	3	5	3	7	4

59. Other chronic poisonings.....	1	6	1	6	4	8	4	2	1	3	6	4	1	7	3	1	7
60. Encephalitis	2	7	18	15	3	8	7	12	10	3	19	10	3	8	3	3	8
61.	2	4	3	...	...	1	...	4	2	2	8	2	2	2	1	1	3
62.	1	1	...	1	...	...	...	3	2	...	...	...	...	...	...	...	...
63a.	1	1	...	1	...	...	...	3	2	...	...	...	...	...	...	...	...
63b.	104	79	100	91	70	65	63	63	59	98	77	77	77	77	77	77	98
64.	5	3	1	5	6	3	4	4	4	38	7	7	7	7	7	7	41
65.	22	39	46	44	38	38	39	39	28	38	26	26	26	26	26	26	41
66.	3	2	1	6	4	3	2	2	9	2	1	1	1	1	1	1	10
67.	2	9	7	7	4	5	13	13	2	6	19	10	10	10	10	10	9
68.	3	10	5	1	12	6	8	8	3	6	1	1	1	1	1	1	6
69.	1	8	4	9	1	6	4	4	6	10	5	5	5	5	5	5	8
70.	5	5	2	...	...	...	...	2	1	2	1	1	1	1	1	1	...
71.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...
72.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...
73.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...
74.	5	6	2	...	...	...	...	2	1	2	1	1	1	1	1	1	...
75.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...
76.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...
77.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...
78.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...
79.	119	181	147	129	104	119	106	106	108	109	126	126	126	126	126	126	147
80.	11	8	11	13	6	8	4	4	4	8	11	11	11	11	11	11	15
81.	27	32	30	17	25	19	19	19	24	21	33	33	33	33	33	33	29
82.	5	...	6	6	4	6	4	4	6	4	10	10	10	10	10	10	9
83.	1	2	2	...	...	...	...	...	1	1	2	2	2	2	2	2	1
84.	1	1	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...
85.	8	1	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...
86.	1	...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...
87.	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...
88.	12	15	12	13	3	10	6	6	6	5	6	6	6	6	6	6	18
89.	8	11	12	8	10	8	6	6	9	3	8	8	8	8	8	8	18
90.	43	63	98	50	16	87	16	16	10	11	89	89	89	89	89	89	78
91.	142	130	140	85	20	47	20	16	11	22	61	61	61	61	61	61	96
92.	4	1	2	3	1	2	1	2	1	1	2	2	2	2	2	2	3
93.	8	10	10	6	1	1	1	2	6	1	5	5	5	5	5	5	7
94.	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
95.	1	3	3	1	3	1	2	2	2	1	1	1	1	1	1	1	4
96.	9	3	...	4	1	4	1	2	1	1	1	1	1	1	1	1	2
97.	1	1	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...
98.	4	1	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...
99.	1	2	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1
100.	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
101.	2	2	1	1	...	...	...	...	2	1	2	2	2	2	2	2	1
102.	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
103.	3	3	8	4	7	3	7	4	9	5	9	7	7	7	7	7	9
104.	11	16	16	15	12	12	12	12	15	20	13	17	17	17	17	17	13
105.	20	31	28	28	25	25	25	144	135	111	43	39	43	43	43	43	23
Diarrhea and enteritis (under 2 years).....	12	17	25	16	35	18	35	80	64	42	24	45	24	24	24	24	37
Diarrhea and enteritis (2 years and over).....	12	17	25	16	35	18	35	80	64	42	24	45	24	24	24	24	37

TABLE No. 16. Showing the causes of death and month of occurrence, 1915.

CAUSES OF DEATH.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1. Typhoid fever	14	6	7	7	11	4	16	29	29	23	27	20
4. Malaria	1	1			2		3	4	7	6		2
5. Smallpox	2											
6. Measles		6	1	3	17	1	3	3	1	1	1	5
7. Scarlet fever		4	6	15	1	7	1	1	2	4	5	4
8. Whooping cough	4	17	19	24	21	28	12	16	9	10	4	12
9. Diphtheria and croup	16	14	21	10	8	9	8	9	11	48	41	48
10. Influenza	28	14	25	24	4	3	2	1	2	6	10	149
14. Dysentery	9	14	2	1			2	6	3	1	1	2
18. Erysipelas	2	8	4	5	3	3	2	1	6	1	8	4
20. Purulent infection and septæmia	4	8	7	6	8	18	8	14	11	19	7	12
23. Rabies						1		1		1		
24. Tetanus	6	1	1	3	3		6	3	3	1	5	2
25. Mycoses									1			
25. Pellagra									1			
28. Tuberculosis of lungs	1		2	1	3	2	4	4	3	1		1
29. Acute miliary tuberculosis	84	69	88	34	34	62	71	57	71	49	51	73
30. Tuberculous meningitis		3	1	2	1	4	1	2	1		4	1
31. Abdominal tuberculosis	1	1	5	1	5	1	2	1	7	1		2
32. Pott's disease	4	3	3	3	1	2	5	7	1	3		5
33. Pott's disease	3	1	1	1			2	2				
34. Pott's disease	1	2	4						1	1	2	
35. Pott's disease	1	5	1	3								
36. Pott's disease	1		1									
36. Rickets	4	4	1	1	3	1	10	1	3	1	6	7
37. Syphilis			4	5	2	9		6	8	8		1
38. Gonococcus infection						1						3
39. Cancer of buccal cavity					2	5	1			6		38
40. Cancer of stomach, liver	4	41	42	40	55	33	49	50	35	25	31	12
41. Cancer of peritoneum, intestines	32	13	13	9	10	6	13	15	12	7	11	6
42. Cancer of female genital organs	12	13	7	3	5	7	8	18	10	3	13	8
43. Cancer of breast	3	8	9	5	4	2	5	7	8	5	9	2
44. Cancer of skin		1	5	5	7		3	3	5	2	2	2
45. Cancer of other organs	19	17	20	15	21	24	18	16	11	25	22	22
46. Other tumors	4	1	2	1	2	2	1	1	1		1	3
47. Acute articular rheumatism	9	11	12	12	13	10	11	8	6	10	11	18
48. Chronic rheumatism	9	6	9	3	1	7	4	1	1	7	2	7
50. Chronic rheumatism	26	23	23	23	23	24	15	16	25	22	21	30
51. Chronic rheumatism	5	1	1	3	1	3	2	1	3	3	2	3
52. Chronic rheumatism				1	1							
53. Chronic rheumatism												
54. Anemia		1	2		1	3	3	3	3	5	2	4
55. Other general diseases	3	9	9	8	4	9	7	11	15	14	11	13
56. Alcoholism		1	1			2	5	1				1
57. Chronic lead poisoning	3	3	5	2	3	4	1	3		1	3	9

158.	Suicide by drowning.	1	2	7	6	2	1	5	3	7	2	8	1	6
159.	Suicide by firearms.	8	1	4	1	12	6	1	7	7	7	1	7	6
160.	Suicide by cutting or piercing.	1	1	1	1	1	1	1	1	1	1	1	1	1
161.	Suicide by jumping.	1	1	1	1	1	1	1	1	1	1	1	1	1
162.	Suicide by crushing.	1	1	1	1	1	1	1	1	1	1	1	1	1
163.	Other suicides.	2	1	1	1	1	1	1	1	1	1	1	1	1
164.	Poisoning by food.	2	1	2	2	1	2	4	1	1	2	2	7	2
165.	Other acute poisonings.	1	4	3	2	7	3	4	1	1	4	2	3	3
166.	Conflagration.	1	2	3	2	4	6	1	6	6	5	4	4	2
167.	Burns.	18	12	6	12	1	6	1	7	2	2	4	7	9
168.	Absorption of deleterious gases.	4	1	10	1	1	13	1	1	18	13	2	2	3
169.	Accidental drowning.	2	3	4	3	28	6	22	2	2	4	6	2	5
170.	Traumatism by firearms.	4	6	1	1	1	1	6	2	2	4	9	8	8
171.	Traumatism by cutting, etc.	16	11	9	11	13	7	12	16	16	12	16	8	13
172.	Traumatism by fall.	3	8	3	1	1	2	4	4	4	3	3	4	1
173.	Traumatism in mines and quarries.	2	1	1	1	2	10	2	1	1	8	23	1	2
174.	Traumatism by machines.	8	9	9	8	25	10	13	9	9	16	15	15	8
175a.	Railroad accidents.	4	4	1	1	4	3	5	5	5	1	1	6	8
175b.	Street-car accidents.	1	1	2	1	1	4	1	1	1	1	8	1	8
175c.	Automobile accidents.	1	1	1	1	1	1	1	1	1	1	2	1	2
175d.	Injuries by other vehicles.	1	1	1	1	1	1	1	1	1	1	2	1	4
175e.	Landalides, other crushing.	1	1	1	1	2	2	6	3	3	5	7	4	4
176.	Injuries by animals.	2	1	9	1	1	2	6	3	3	5	7	4	4
177.	Starvation.	1	1	1	1	1	1	1	1	1	1	1	1	2
178.	Excessive cold.	1	1	1	1	1	1	1	1	1	1	1	1	2
179.	Effects of heat.	1	1	1	1	1	1	1	1	1	1	1	1	2
180.	Lightning.	1	1	1	1	1	1	1	1	1	1	1	1	4
181.	Electricity.	1	1	1	1	1	1	1	1	1	1	1	1	2
185.	Fractures, cause not specified.	4	2	3	2	8	2	5	1	1	1	1	3	6
186.	Other external violence.	3	6	7	2	18	1	5	3	3	4	5	26	6
182.	Homicide by firearms.	8	8	5	8	6	6	7	10	10	5	6	5	15
183.	Homicide by cutting or piercing.	1	1	3	3	2	2	3	1	1	2	1	2	3
184.	Homicide by other means.	4	1	3	3	3	2	3	3	3	2	2	4	6
187.	Ill-defined organic disease.	3	2	4	8	1	1	3	1	1	2	1	1	3
188.	Sudden death.	16	8	14	14	10	15	12	20	20	11	16	5	10
189.	Not specified or ill-defined.	16	8	14	14	10	15	12	20	20	11	16	5	10

TABLE No. 17. Showing comparison of birth rates, 1912 to 1915, inclusive.

COUNTIES.	Birth rates per 1,000 population.			
	1915.	1914.	1913.	1912.
Allen.....	22.7	17.6	20.0	17.4
Anderson.....	20.3	18.6	19.7	18.4
Atchison, <i>except</i>	17.7	15.9	16.8	16.5
Atchison city.....	15.2	14.9	12.7	13.5
Barber.....	25.6	20.1	22.7	24.1
Barton.....	24.5	22.9	26.5	30.6
Bourbon, <i>except</i>	19.9	18.5	16.7	20.4
Fort Scott.....	19.5	18.8	20.8	20.3
Brown.....	22.2	26.0	23.1	22.4
Butler.....	20.3	23.5	21.0	23.0
Chase.....	22.6	24.8	29.9	25.5
Chautauqua.....	23.2	22.9	21.0	23.2
Cherokee.....	22.7	23.3	24.2	25.1
Cheyenne.....	28.9	26.6	30.0	18.0
Clark.....	30.8	27.0	29.8	23.2
Clay.....	23.6	23.5	19.5	25.3
Cloud.....	24.2	22.0	24.2	27.7
Coffey.....	18.0	18.0	18.6	17.0
Comanche.....	24.1	34.1	29.3	40.9
Cowley.....	22.3	19.8	20.2	19.4
Crawford, <i>except</i>	25.0	23.3	25.6	24.8
Pittsburg.....	18.4	19.3	22.7	25.2
Decatur.....	25.3	20.1	21.0	14.0
Dickinson.....	23.1	21.7	20.3	24.6
Doniphan.....	22.5	23.3	21.8	26.2
Douglas, <i>except</i>	15.6	16.3	15.5	16.0
Lawrence.....	15.0	13.6	10.8	15.0
Edwards.....	23.5	23.1	22.9	27.6
Elk.....	19.9	16.1	21.6	21.4
Ellis.....	37.4	38.8	36.2	33.4
Ellsworth.....	25.3	26.1	26.8	27.9
Finney.....	17.5	22.2	17.6	20.9
Ford.....	29.3	33.0	29.0	35.4
Franklin.....	19.1	20.7	20.5	21.3
Geary.....	23.0	19.7	22.5	22.3
Gove.....	30.4	23.6	21.8	19.3
Graham.....	27.5	23.1	19.9	22.9
Grant.....	11.1	20.8	14.5	15.6
Gray.....	24.0	29.9	20.3	30.8
Greeley.....	11.1	17.3	24.5	15.4
Greenwood.....	23.7	19.9	21.0	23.2
Hamilton.....	23.1	24.5	14.4	18.0
Harper.....	25.2	22.5	26.8	25.1
Harvey.....	24.6	22.8	24.2	24.6
Haskell.....	24.1	27.9	20.0	27.2
Hodgeman.....	27.8	24.9	26.6	29.0
Jackson.....	20.6	19.3	19.1	20.0
Jefferson.....	20.3	19.0	19.9	21.4
Jewell.....	22.7	25.1	23.7	21.7
Johnson.....	17.4	16.6	14.9	18.2
Kearny.....	27.6	23.3	23.3	14.7
Kingman.....	25.5	24.1	20.5	16.6
Kiowa.....	30.6	31.0	28.6	34.0
Labette, <i>except</i>	20.5	17.0	16.4	19.9
Parsons.....	22.1	18.3	20.0	23.3
Lane.....	23.8	24.6	23.6	20.4
Leavenworth, <i>except</i>	16.4	14.2	9.9	10.3
Leavenworth city.....	15.0	15.7	19.6	19.0
Lincoln.....	25.8	26.5	26.8	27.4
Linn.....	19.2	17.5	19.4	24.3
Logan.....	20.3	19.9	17.8	14.0
Lyon.....	19.0	19.3	18.8	20.6
Marion.....	24.7	24.9	24.7	27.2
Marshall.....	19.9	19.6	18.6	22.3
McPherson.....	22.8	23.4	22.1	23.5
Meade.....	31.5	24.6	30.3	27.5
Miami.....	17.2	17.4	15.6	18.2
Mitchell.....	22.5	20.1	21.2	27.5
Montgomery, <i>except</i>	23.1	18.1	20.9	19.0
Coffeyville.....	17.6	19.3	17.3	23.1
Independence.....	16.0	23.0	15.2	21.3
Morris.....	22.5	22.2	22.4	22.3
Morton.....	15.0	22.1	6.9	20.7

TABLE No. 17—CONCLUDED.

COUNTIES.	Birth rates per 1,000 population.			
	1915.	1914.	1913.	1912.
aba.....	22.6	23.0	24.3	27.9
aho.....	21.8	20.8	23.2	25.1
.....	26.5	16.8	19.9	26.4
on.....	29.7	24.7	19.6	19.4
re.....	20.7	21.3	20.4	19.1
orne.....	22.8	24.3	19.4	21.2
wa.....	21.0	21.1	23.2	25.3
nee.....	21.4	21.4	24.1	23.2
lips.....	24.8	20.0	17.0	17.8
awatomie.....	23.0	22.7	20.7	20.4
t.....	21.9	21.7	21.1	29.6
lins.....	23.2	26.6	22.9	18.6
o, except.....	25.1	27.0	24.9	25.6
utchinson.....	19.0	18.3	20.0	23.2
ublic.....	21.2	24.0	21.4	23.3
.....	23.0	23.6	23.0	27.1
y.....	22.7	19.5	21.0	24.7
ks.....	21.5	26.8	25.0	25.1
h.....	27.1	26.7	26.5	25.6
sell.....	21.2	18.4	19.7	26.2
ne.....	21.6	19.5	19.6	23.1
t.....	24.0	21.4	23.8	13.1
gwick, except.....	24.0	21.1	21.9	20.1
ichita.....	19.6	16.9	15.4	19.8
ard.....	26.9	21.2	26.4	31.2
wnee, except.....	17.2	19.3	13.2	14.2
opeka.....	24.0	19.1	20.3	21.7
ridan.....	30.7	26.7	20.7	19.0
rman.....	22.5	22.9	23.5	17.0
ith.....	25.7	23.3	24.0	26.0
ford.....	26.9	26.4	24.1	27.2
nton.....	31.6	17.8	11.5	7.0
vens.....	21.5	18.4	23.6	25.2
nner.....	24.9	22.9	23.0	22.0
omas.....	24.0	21.4	17.6	13.3
go.....	30.3	19.7	25.4	21.5
baunsee.....	25.9	19.8	20.0	19.8
llace.....	23.7	29.2	20.0	13.8
shington.....	22.0	21.4	23.8	23.7
chita.....	19.0	12.8	14.0	18.5
lson.....	23.7	27.8	25.0	23.8
odson.....	22.6	17.5	17.1	19.3
andotte, except.....	19.2	17.6	23.7	16.3
Kansas City.....	22.9	22.8	21.1	23.8

TABLE No. 18. Showing the births by counties by sex, color and parent nativity, 1914.

COUNTIES.	Sex.		Color.			Nativity of			
	Male.	Fe-male.	White.	Black.	In-dian.	Father.		Mother.	
						Na-tive.	For-eign.	Na-tive.	For-eign.
Allen	212	206	408	10	.....	404	14	407	11
Anderson	100	136	234	2	.....	215	21	226	10
Atchison, <i>except</i>	112	105	211	6	.....	194	23	206	11
Atchison city	126	118	219	25	.....	233	11	234	10
Barber	105	98	203	.....	.....	197	6	197	6
Barton	215	213	423	5	.....	319	109	347	81
Bourbon, <i>except</i>	145	106	251	.....	.....	247	4	250	1
Fort Scott	112	112	215	9	.....	215	9	222	2
Brown	284	250	517	14	3	497	37	511	23
Butler	244	229	471	2	.....	451	22	464	9
Chase	93	73	165	1	.....	155	11	163	3
Chautauqua	124	121	242	3	.....	243	2	244	1
Cherokee	436	407	831	12	.....	715	128	731	112
Cheyenne	47	62	108	1	.....	94	15	101	8
Clark	49	60	109	.....	.....	107	2	108	1
Clay	182	176	356	2	.....	326	32	343	15
Cloud	237	201	437	1	.....	415	23	419	19
Coffey	132	141	271	2	.....	264	9	268	5
Comanche	65	75	140	.....	.....	134	6	137	3
Cowley	317	305	614	8	.....	609	13	613	9
Crawford, <i>except</i>	492	457	933	16	.....	570	379	624	325
Pittsburg	208	133	331	10	.....	314	27	316	25
Decatur	73	64	136	1	.....	128	9	133	4
Dickinson	267	279	544	2	.....	474	72	500	46
Doniphan	195	166	356	4	1	344	17	350	11
Douglas, <i>except</i>	93	107	192	8	.....	187	13	195	5
Lawrence	98	81	166	13	.....	171	8	176	3
Edwards	91	65	155	1	.....	151	5	151	5
Elk	87	76	163	.....	.....	159	4	162	1
Ellis	245	248	492	1	.....	350	143	395	98
Ellsworth	134	127	260	1	.....	216	45	218	43
Finney	58	67	124	1	.....	111	14	114	11
Ford	213	186	395	4	.....	372	27	376	23
Franklin	221	208	422	7	.....	418	11	419	10
Geary	116	83	193	6	.....	182	17	186	13
Gove	43	26	89	.....	.....	79	10	82	7
Graham	92	92	178	6	.....	164	20	165	19
Grant	9	9	18	.....	.....	18	.....	18	.....
Gray	48	54	102	.....	.....	101	1	101	1
Greeley	8	9	17	.....	.....	15	2	15	2
Greenwood	148	133	281	.....	.....	273	8	276	5
Hamilton	25	30	55	.....	.....	51	4	53	2
Harper	146	146	292	.....	.....	285	7	285	7
Harvey	220	204	415	9	.....	374	50	378	46
Haskell	11	14	25	.....	.....	24	1	24	1
Hodgeman	36	35	70	1	.....	66	5	68	3
Jackson	153	152	300	5	.....	290	15	292	13
Jefferson	159	140	286	13	.....	290	9	294	5
Jewell	220	197	417	.....	.....	400	17	402	15
Johnson	169	159	316	12	.....	305	23	307	21
Kearny	29	20	49	.....	.....	45	4	44	5
Kingman	150	139	289	.....	.....	278	11	283	6
Kiowa	99	95	194	.....	.....	186	8	190	4
Labette, <i>except</i>	181	148	313	11	.....	321	8	324	5
Parsons	121	114	217	13	.....	226	9	231	4
Lane	30	22	52	.....	.....	50	2	52	.....
Leavenworth, <i>except</i>	139	132	266	5	.....	249	22	252	19
Leavenworth city	175	159	311	23	.....	281	53	294	40
Lincoln	147	124	270	1	.....	249	22	255	16
Linn	139	145	280	4	.....	280	4	281	3
Logan	24	32	54	2	.....	53	3	53	3
Lyon	255	267	513	9	.....	484	38	498	24
Marion	265	285	547	3	.....	397	153	442	103
Marshall	216	214	427	3	.....	395	35	311	19
McPherson	250	236	486	.....	.....	408	78	432	54
Meade	70	54	124	.....	.....	114	10	120	4
Miami	170	169	332	7	.....	327	12	327	12
Mitchell	146	142	288	.....	.....	273	15	275	13
Montgomery, <i>except</i>	201	200	394	7	.....	385	16	388	13
Coffeyville	150	157	288	19	.....	296	11	301	6
Independence	96	114	197	13	.....	203	7	206	4
Morris	126	134	257	3	.....	244	16	254	6

TABLE No. 18—CONCLUDED.

COUNTIES.	Sex.		Color.			Nativity of			
						Father.		Mother.	
	Male.	Female.	White.	Black.	Indian.	Native.	Foreign.	Native.	Foreign.
Morton.....	21	14	85	.....	.....	85	.....	85	.....
Nemaha.....	231	215	445	.....	1	390	56	407	39
Neosho.....	219	266	472	13	.....	472	13	477	8
Ness.....	45	57	102	.....	.....	87	15	91	11
Norton.....	139	111	250	.....	.....	242	8	243	7
Osage.....	229	197	420	6	.....	383	43	400	26
Osborne.....	156	153	308	1	.....	295	14	300	9
Ottawa.....	109	132	240	1	.....	229	12	233	8
Pawnee.....	95	73	166	2	.....	154	14	154	14
Phillips.....	125	130	252	3	.....	233	22	240	15
Pottawatomie.....	164	210	371	3	.....	343	31	357	17
Pratt.....	132	107	235	4	.....	237	2	234	5
Rawlins.....	68	76	144	.....	.....	105	39	111	33
Reno, <i>except</i>	276	275	571	.....	.....	537	34	555	16
Hutchinson.....	173	166	326	13	.....	315	24	318	21
Republic.....	200	213	413	.....	.....	360	53	373	40
Rice.....	179	159	335	3	.....	320	18	327	11
Riley.....	173	171	338	6	.....	309	35	316	28
Rooks.....	127	146	273	.....	.....	256	17	260	13
Rush.....	108	91	199	.....	.....	147	52	159	40
Russell.....	98	107	205	.....	.....	156	49	159	46
Saline.....	208	200	397	11	.....	377	31	382	26
Scott.....	23	24	47	.....	.....	46	1	46	1
Sedgwick, <i>except</i>	202	202	404	.....	.....	377	27	389	15
Wichita.....	512	493	960	45	.....	957	48	963	42
Seward.....	47	42	89	.....	.....	86	3	89	.....
Shawnee, <i>except</i>	137	146	280	3	.....	270	13	272	11
Topeka.....	522	473	896	99	.....	879	116	904	91
Sheridan.....	62	54	116	.....	.....	107	9	112	4
Sherman.....	53	39	92	.....	.....	89	3	89	3
Smith.....	185	176	361	.....	.....	341	20	357	4
Stafford.....	147	150	292	5	.....	282	15	290	7
Stanton.....	7	5	12	.....	.....	12	.....	12	.....
Stevens.....	31	32	62	1	.....	63	.....	63	.....
Sumner.....	325	311	633	3	.....	617	19	623	13
Thomas.....	37	40	77	.....	.....	71	6	75	2
Trego.....	52	33	85	.....	.....	58	27	62	23
Wabaunsee.....	116	125	233	8	.....	221	20	230	11
Wallace.....	36	23	59	.....	.....	57	2	58	1
Washington.....	215	201	415	1	.....	376	40	389	27
Wichita.....	11	7	18	.....	.....	16	2	16	2
Wilson.....	278	250	524	4	.....	515	13	518	10
Woodson.....	93	67	160	.....	.....	155	5	157	3
Wyandotte, <i>except</i>	167	163	303	27	.....	299	31	303	27
Kansas City.....	1,023	966	1,837	156	.....	1,563	430	1,628	365

TABLE No. 19. Showing the births by counties by sex, color and parent nativity, 1915.

COUNTIES.	Sex.		Color.				Nativity of			
	Male.	Female.	White.	Black.	Indian.	Yellow.	Father.		Mother.	
							Native.	Foreign.	Native.	Foreign.
Allen.....	276	257	511	22	.....	.....	519	14	526	7
Anderson.....	142	128	266	4	.....	.....	252	18	258	12
Atchison, <i>except</i>	118	100	210	3	.....	.....	196	17	207	6
Atchison city.....	116	116	207	25	.....	.....	220	12	224	3
Barber.....	118	118	231	5	.....	.....	226	10	231	5
Barton.....	228	218	438	8	.....	.....	246	95	373	68
Bourbon, <i>except</i>	131	140	269	2	.....	.....	266	5	269	2
Fort Scott.....	119	108	208	14	.....	.....	218	4	218	4
Brown.....	244	215	445	12	2	.....	422	37	437	22
Butler.....	216	206	418	4	.....	.....	405	17	412	10
Chase.....	87	75	158	4	.....	.....	159	3	157	5
Chautauqua.....	135	125	259	1	.....	.....	260	.....	258	2
Cherokee.....	429	396	806	19	.....	.....	716	109	721	104
Cheyenne.....	55	64	119	.....	.....	.....	104	15	105	14
Clark.....	63	69	132	.....	.....	.....	129	3	127	5
Clay.....	193	159	351	1	.....	.....	326	26	334	18
Cloud.....	246	222	465	3	.....	.....	451	17	457	11
Coffey.....	142	128	270	.....	.....	.....	254	16	261	9
Comanche.....	47	64	111	.....	.....	.....	111	.....	109	2
Cowley.....	336	333	652	17	.....	.....	654	15	659	10
Crawford, <i>except</i>	554	511	1,045	20	.....	.....	676	339	744	321
Pittsburg.....	158	166	306	18	.....	.....	296	28	301	23
Decatur.....	107	83	190	.....	.....	.....	184	6	182	3
Dickinson.....	306	277	581	2	.....	.....	522	61	543	40
Doniphan.....	173	154	309	18	.....	.....	308	19	313	14
Douglas, <i>except</i>	108	83	188	3	.....	.....	184	7	187	4
Lawrence.....	101	93	161	33	.....	.....	188	6	190	4
Edwards.....	83	75	158	.....	.....	.....	145	13	150	3
Elk.....	99	101	200	.....	.....	.....	197	3	197	3
Ellis.....	248	245	493	.....	.....	.....	373	120	396	97
Ellsworth.....	136	130	264	2	.....	.....	219	47	233	33
Finney.....	52	53	103	2	.....	.....	96	9	95	10
Ford.....	183	204	377	10	.....	.....	367	20	362	25
Franklin.....	217	206	411	11	1	.....	406	17	413	10
Geary.....	127	105	220	12	.....	.....	213	19	220	12
Gove.....	67	55	121	1	.....	.....	99	23	103	19
Graham.....	109	96	191	14	.....	.....	187	18	196	9
Grant.....	8	2	10	.....	.....	.....	10	.....	10	.....
Gray.....	50	38	88	.....	.....	.....	88	.....	88	.....
Greeley.....	6	4	10	.....	.....	.....	9	1	10	.....
Greenwood.....	171	173	344	.....	.....	.....	332	12	337	7
Hamilton.....	27	25	52	.....	.....	.....	49	3	49	3
Harper.....	179	156	335	.....	.....	.....	330	5	331	4
Harvey.....	246	215	455	6	.....	.....	404	57	413	48
Haskell.....	10	14	24	.....	.....	.....	22	2	21	3
Hodgeman.....	44	44	88	.....	.....	.....	84	4	86	2
Jackson.....	168	156	320	4	.....	.....	305	19	314	10
Jefferson.....	155	164	307	12	.....	.....	311	8	312	7
Jewell.....	195	195	390	.....	.....	.....	379	11	385	5
Johnson.....	158	164	310	12	.....	.....	296	26	299	23
Kearny.....	36	28	64	.....	.....	.....	55	9	53	11
Kingman.....	160	162	322	.....	.....	.....	311	11	312	10
Kiowa.....	103	95	198	.....	.....	.....	189	9	196	2
Labette, <i>except</i>	185	202	375	12	.....	.....	382	5	382	5
Parsons.....	139	129	248	20	.....	.....	263	5	265	3
Lane.....	30	31	61	.....	.....	.....	57	4	59	2
Leavenworth, <i>except</i>	155	149	295	9	.....	.....	279	25	286	18
Leavenworth city.....	169	162	300	31	.....	.....	270	61	286	45
Lincoln.....	153	118	271	.....	.....	.....	252	19	257	14
Linn.....	158	130	282	6	.....	.....	286	2	286	2
Logan.....	29	32	61	.....	.....	.....	54	7	57	4
Lyon.....	244	260	494	10	.....	.....	460	44	484	20
Marion.....	274	260	531	3	.....	.....	378	156	415	119
Marshall.....	237	196	431	2	.....	.....	397	36	410	23
McPherson.....	259	225	483	1	.....	.....	400	84	424	60
Meade.....	99	67	165	1	.....	.....	159	7	160	6
Miami.....	159	162	310	11	.....	.....	312	9	313	8
Mitchell.....	149	159	308	.....	.....	.....	294	14	296	12
Montgomery, <i>except</i>	263	257	511	9	.....	.....	473	47	475	45
Coffeyville.....	145	123	255	13	.....	.....	267	1	263	5
Independence.....	91	103	180	14	.....	.....	191	3	192	2

TABLE No. 19—CONCLUDED.

COUNTIES.	Sex.		Color.				Nativity of			
							Father.		Mother.	
	Male.	Fe- male.	White.	Black.	In- dian.	Yel- low.	Na- tive.	For- eign.	Na- tive.	For- eign.
Morris	181	185	268	8			254	12	254	12
Morton	12	14	26				26		26	
Nemaha	211	208	411	8			367	47	388	31
Neosho	260	242	489	18			487	15	496	6
Ness	74	73	147				127	20	141	6
Norton	152	157	309				303	6	300	9
Osage	221	194	410	5			398	22	399	16
Osborne	160	187	296	1			289	8	290	7
Ottawa	129	115	244				228	16	237	7
Pawnee	95	90	183	2			178	12	177	8
Phillips	152	175	326	1			308	19	309	18
Pottawatomie	178	193	370	1			343	28	349	22
Pratt	125	129	254				248	6	249	5
Rawlins	87	75	162				184	28	137	25
Reno, <i>except</i>	264	273	537				508	29	519	18
Hutchinson	202	164	356	10			348	18	349	17
Republic	185	173	358				327	31	335	23
Rice	170	162	328	4			309	23	315	17
Riley	197	179	370	6			338	38	351	25
Rooks	99	129	227	1			222	6	226	2
Rush	110	109	219				162	57	159	60
Russell	110	126	236				186	50	188	48
Saline	227	220	435	12			221	26	221	26
Scott	26	29	55				54	1	53	2
Sedgwick, <i>except</i>	235	237	472				444	28	453	19
Wichita	550	495	970	75			973	72	989	56
Seward	65	56	121				115	6	119	2
Shawnee, <i>except</i>	172	136	301	7			295	18	299	9
Topeka	571	499	938	132			940	130	957	113
Sheridan	87	63	150				139	11	144	6
Sherman	42	49	91				85	6	85	6
Smith	205	189	394				379	15	388	6
Stafford	165	142	306	1			298	9	302	5
Stanton	14	12	26				26		26	
Stevens	27	24	50	1			50	1	47	4
Sumner	371	327	639	9			630	18	632	16
Thomas	52	44	95	1			94	2	94	2
Trego	83	57	140				103	37	106	34
Wabaunsee	171	138	296	13			277	22	293	16
Wallace	30	30	59	1			58	2	55	5
Washington	225	195	420				375	45	394	26
Wichita	12	17	29				26	3	28	1
Wilson	254	223	472	5			450	27	459	18
Woodson	107	104	211				190	21	207	4
Wyandotte, <i>except</i>	183	180	333	30			331	32	334	29
Kansas City	1,054	1,048	1,939	162		1	1,612	490	1,649	453

TABLE No. 20. Showing the births by counties, by months, 1914.

COUNTIES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Delayed reports.
Allen.....	35	30	45	42	33	29	40	27	27	40	31	27	3
Anderson.....	24	16	15	16	17	15	22	24	28	23	25	12	4
Atchison, except.....	19	18	23	15	11	15	15	27	14	21	15	13	11
Atchison city.....	25	13	12	22	22	16	20	22	18	13	12	17	30
Barber.....	22	24	20	18	6	15	15	8	15	18	20	9	13
Barton.....	45	35	38	23	28	31	32	34	34	42	34	35	17
Bourbon, except.....	16	18	21	21	21	7	22	14	38	29	32	8	9
Fort Scott.....	20	17	20	21	12	11	26	29	18	17	14	22	2
Brown.....	51	42	40	31	35	37	55	48	34	36	53	37	35
Butler.....	49	37	30	22	49	39	38	47	44	28	43	24	27
Chase.....	22	10	12	7	14	11	22	13	14	14	9	15	4
Chautauqua.....	26	13	20	18	15	19	18	26	21	27	12	9	21
Cherokee.....	85	52	31	117	52	71	68	74	70	87	65	50	21
Cheyenne.....	9	12	7	9	8	5	6	12	7	10	11	7	6
Clark.....	11	10	7	8	5	11	6	12	15	11	8	4	1
Clay.....	24	27	24	28	30	30	41	19	31	30	31	24	19
Cloud.....	39	35	36	29	23	38	36	33	32	16	34	34	23
Coffey.....	22	22	21	18	23	22	17	29	20	30	27	11	11
Comanche.....	13	10	10	7	10	8	7	9	16	13	12	8	17
Cowley.....	49	60	54	41	46	42	48	40	57	53	54	51	27
Crawford, except.....	89	73	75	82	82	70	61	66	86	83	62	70	50
Pittsburg.....	34	28	33	23	20	27	24	34	27	29	24	31	7
Decatur.....	17	7	14	12	8	10	11	5	14	11	11	9	8
Dickinson.....	40	44	43	32	37	42	50	49	52	50	38	33	36
Doniphan.....	37	42	32	29	26	21	21	23	27	42	28	27	7
Douglas, except.....	17	21	24	7	16	26	14	16	19	14	12	6	8
Lawrence.....	9	18	13	12	12	14	25	12	21	18	8	12	5
Edwards.....	9	17	16	17	11	10	17	13	10	17	7	10	7
Elk.....	18	14	14	8	17	13	10	11	14	13	21	11	1
Ellis.....	46	34	38	36	35	36	50	41	34	50	42	28	23
Ellsworth.....	28	30	19	17	15	17	26	24	24	25	19	15	30
Finney.....	15	8	6	10	11	7	8	6	11	14	10	11	8
Ford.....	34	32	42	32	28	28	38	35	37	26	31	28	8
Franklin.....	42	31	40	28	27	33	32	29	40	44	31	35	17
Geary.....	17	17	25	12	14	14	18	9	17	19	17	14	6
Gove.....	9	11	10	4	9	4	4	6	9	11	4	7	1
Graham.....	15	15	13	16	15	8	16	11	7	11	15	20	22
Grant.....	1	2	1	1	2	1	4	2	1	2	1	.....	.....
Gray.....	7	9	13	12	9	5	8	9	8	5	9	1	8
Greeley.....	2	.....	1	.....	1	2	3	1	1	1	3	1	1
Greenwood.....	28	18	19	27	23	15	32	30	22	23	20	15	10
Hamilton.....	10	5	2	6	6	2	1	8	2	7	6	4	1
Harper.....	25	21	30	23	30	21	24	17	22	33	17	23	9
Harvey.....	30	53	39	34	43	28	21	34	24	31	35	38	14

TABLE No. 20—CONCLUDED.

COUNTIES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Delayed reports.
Scott.....	3	6	7	3	6	2	3	4	4	4	4	2	.....
Sedgwick, <i>except</i>	34	30	32	19	22	32	39	44	32	44	28	30	18
Wichita.....	82	58	100	77	62	67	85	79	101	97	87	71	39
Seward.....	9	13	8	7	6	7	5	9	8	5	7	4	1
Shawnee, <i>except</i>	17	30	21	23	20	20	21	28	27	17	21	19	19
Topeka.....	109	98	86	78	79	88	77	77	93	75	78	84	4
Sheridan.....	9	14	6	6	10	6	7	11	9	11	9	3	15
Sherman.....	5	6	8	8	11	6	7	8	6	10	5	8	4
Smith.....	40	32	39	26	27	25	32	35	24	29	22	19	12
Stafford.....	24	32	24	23	23	25	19	23	20	27	28	14	15
Stanton.....	2	.....	1	1	.....	1	2	.....	.....	1	2	.....	2
Stevens.....	7	11	1	1	4	5	1	5	4	2	5	2	15
Sumner.....	66	60	36	80	41	45	57	62	70	48	59	52	16
Thomas.....	3	3	9	2	5	5	11	12	4	9	5	1	8
Trego.....	11	7	8	7	7	4	4	11	10	7	2	6	2
Wabaunsee.....	24	16	20	17	15	16	19	22	19	25	21	14	13
Wallace.....	5	6	6	3	2	5	5	5	4	3	4	1	10
Washington.....	37	22	36	38	25	43	33	32	39	35	39	23	16
Wichita.....	2	2	1	.....	2	1	.....	4	3	1	2	.....	.....
Wilson.....	39	47	40	52	37	32	44	46	43	37	42	40	29
Woodson.....	18	13	12	14	9	14	9	11	12	15	14	15	5
Wyandotte, <i>except</i>	26	24	30	24	17	27	27	26	29	45	20	30	5
Kansas City.....	165	170	155	147	151	164	188	191	177	170	150	133	35

TABLE No. 21. Showing the births by counties, by months, 1915.

COUNTIES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Delayed reports.
Allen.....	45	38	40	39	44	39	50	53	46	47	40	31	21
Anderson.....	24	14	32	27	16	21	18	12	30	29	19	20	8
Atchison, except	14	16	22	18	18	14	19	20	18	16	17	13	8
Atchison city.....	20	20	26	14	11	12	11	26	20	22	20	15	15
Barber.....	24	17	21	14	19	22	15	17	22	16	14	16	19
Barton.....	43	33	24	40	27	36	47	30	21	69	35	20	16
Bourbon, except.....	26	21	24	22	19	22	20	35	16	21	20	22	3
Fort Scott.....	27	19	31	9	22	17	12	14	12	21	19	19	.....
Brown.....	47	36	26	27	47	28	45	44	38	32	43	27	19
Butler.....	34	31	37	29	24	32	43	51	46	45	29	11	10
Chase.....	11	7	11	14	11	13	22	14	16	10	14	14	5
Chautauqua.....	20	19	21	13	18	23	28	21	25	23	16	13	20
Cherokee.....	60	72	67	70	72	72	65	66	61	53	74	60	33
Cheyenne.....	8	6	11	13	9	9	10	11	8	4	14	11	5
Clark.....	8	10	15	8	7	8	9	15	16	14	12	9	1
Clay.....	28	23	36	25	28	35	28	31	43	25	21	23	6
Cloud.....	35	37	29	32	29	30	47	41	50	50	45	34	9
Coffey.....	22	32	25	13	22	23	24	21	21	23	10	16	13
Comanche.....	11	8	7	9	6	6	11	15	6	15	6	7	4
Cowley.....	59	57	44	54	51	42	66	56	56	57	49	58	20
Crawford, except.....	108	77	81	64	77	98	151	27	99	91	78	74	40
Pittsburg.....	34	19	17	33	32	29	36	24	22	26	31	20	1
Decatur.....	12	9	16	18	7	10	15	22	23	18	22	13	5
Dickinson.....	49	46	58	38	52	45	52	54	50	48	42	24	25
Doniphan.....	37	28	34	31	28	23	26	32	28	25	19	8	8
Douglas, except.....	14	18	8	15	11	9	19	23	17	15	20	12	10
Lawrence.....	18	16	17	19	11	11	20	22	13	14	12	9	12
Edwards.....	14	18	15	6	11	11	11	17	11	15	13	15	1
Elk.....	19	18	19	11	14	9	15	16	16	21	18	17	7
Ellis.....	41	48	34	36	47	34	39	53	28	44	33	37	19
Ellsworth.....	20	17	21	20	31	22	20	20	13	21	20	14	12
Finney.....	10	5	5	8	10	7	11	14	13	6	8	8	.....
Ford.....	30	34	35	30	27	23	44	30	40	27	33	26	8
Franklin.....	44	32	41	30	31	29	31	33	43	38	28	35	8
Geary.....	23	15	28	20	11	21	16	19	22	20	12	17	8
Gove.....	13	7	12	11	15	9	7	10	12	9	6	4	7
Graham.....	14	15	15	19	14	13	16	16	15	23	16	19	10
Grant.....	2	1	1	.....	2	1	.....	.....	1	1	1	.....	.....
Gray.....	10	7	9	10	6	7	4	2	9	8	5	3	8
Greeley.....	1	.....	.....	1	1	1	1	.....	1	1	1	.....	.....
Greenwood.....	31	27	27	21	24	37	28	29	27	23	34	25	6
Hamilton.....	7	8	5	8	3	4	3	6	2	4	1	4	2
Harper.....	30	25	38	22	30	20	27	38	26	24	26	.....	5
Harvey.....	37	40	40	25	31	31	41	42	53	43	34	32	12

TABLE No. 21—CONCLUDED.

COUNTIES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Delayed reports.
Haakell.....	2	3	.....	.....	1	1	4	2	1	.....	4	1	2
Hodgeman.....	9	7	.....	.....	10	7	8	7	8	.....	8	6	4
Jackson.....	23	26	36	27	19	24	28	25	28	35	25	21	7
Jefferson.....	35	25	19	23	26	22	20	42	29	26	22	14	16
Jewell.....	40	27	37	32	23	22	31	41	43	35	24	25	10
Johnson.....	36	23	26	36	28	18	34	31	32	23	15	10	10
Kearny.....	6	2	7	6	3	4	4	6	7	7	7	4	1
Kingman.....	36	30	20	21	25	18	25	21	34	41	26	18	8
Kiowa.....	21	23	16	9	14	13	9	20	21	19	12	12	9
Labette, except.....	25	28	25	35	30	32	32	44	35	25	36	28	13
Parsons.....	19	20	27	16	21	18	17	26	25	24	14	21	20
Lane.....	3	2	2	4	4	6	6	6	4	8	7	8	1
Leavenworth, except.....	20	28	27	19	22	18	30	25	23	26	22	12	32
Leavenworth city.....	31	29	31	11	27	22	30	33	22	28	36	21	10
Lincoln.....	16	24	23	18	24	25	29	26	31	19	17	10	9
Linn.....	25	23	19	23	28	16	20	23	34	29	21	16	11
Logan.....	8	4	4	10	6	4	6	3	6	4	1	.....	5
Lyon.....	41	32	42	38	54	37	49	40	55	33	38	32	13
Marion.....	35	35	53	48	44	37	26	45	53	59	41	35	23
Marshall.....	38	30	44	33	35	22	45	34	35	34	26	32	25
McPherson.....	40	36	41	29	39	35	44	37	51	46	51	18	17
Meade.....	17	10	9	6	12	11	18	16	13	11	15	18	10
Miami.....	32	29	18	26	27	35	17	24	36	30	17	25	6
Mitchell.....	39	28	24	27	25	23	24	29	23	28	22	7	9
Montgomery, except.....	53	31	29	38	40	30	35	61	63	42	42	50	6
Coffeyville.....	27	24	10	21	15	30	28	24	19	24	18	23	.....
Independence.....	23	18	15	9	12	15	19	9	23	12	17	17	5
Morris.....	20	22	26	13	19	17	30	26	33	22	17	14	7
Morton.....	2	1	5	.....	3	.....	.....	.....	2	5	4	2	2
Nemaha.....	31	40	42	44	30	42	21	35	34	34	27	18	16
Neosho.....	43	55	44	36	44	36	47	40	42	37	37	29	12
Ness.....	12	9	8	4	8	10	18	15	15	17	13	18	5
Norton.....	19	19	24	25	30	23	24	29	23	24	23	22	19
Oaage.....	40	31	27	34	26	31	29	44	46	42	30	21	14
Osborne.....	26	24	27	22	21	21	30	23	24	23	22	19	10
Ottawa.....	16	27	13	20	23	15	20	30	18	20	21	14	7
Pawnee.....	17	11	14	12	11	19	17	7	16	16	22	15	9
Phillips.....	25	32	25	15	23	18	36	22	22	30	21	25	33
Pottawatomie.....	39	31	32	26	31	28	20	33	33	36	30	19	13
Pratt.....	26	28	26	23	21	34	36	18	12	16	16	11	8
Rawlins.....	12	11	10	15	9	11	19	11	17	21	11	11	4
Reno, except.....	44	44	43	41	37	43	41	48	51	52	43	33	17
Hutchinson.....	23	23	27	27	28	35	35	39	37	13	31	20	27
Republic.....	32	26	29	28	36	24	27	35	31	31	31	19	5

Rice.....	30	28	34	27	32	30	22	25	28	29	26	16	5
Riley.....	33	30	34	27	34	30	25	29	35	36	30	10	23
Rooks.....	17	17	15	17	15	11	15	24	27	28	18	16	13
Ruah.....	21	16	16	16	18	14	16	26	21	15	17	17	12
Russell.....	26	13	18	17	12	23	19	26	22	15	21	19	5
Saline.....	29	30	36	34	34	33	44	61	41	41	35	28	11
Scott.....	6	5	1	5	5	4	6	1	8	7	3	2	2
Sedgwick, except Wichita.....	32	36	45	32	30	38	44	55	43	29	39	26	23
Seward.....	85	78	78	65	88	96	90	83	95	94	88	67	33
Shawnee, except Topeka.....	7	7	10	16	9	11	8	18	5	7	10	8	5
Sheridan.....	31	26	17	21	21	23	29	33	28	26	28	22	3
Sherman.....	76	75	93	85	76	80	92	93	83	95	92	64	66
Smith.....	6	8	12	16	13	7	11	10	17	24	11	9	6
Stafford.....	6	8	11	4	8	8	4	10	4	6	9	11	2
Stanton.....	25	27	32	26	25	40	47	30	84	46	26	30	6
Stevens.....	29	35	19	30	17	26	21	34	28	22	14	16	16
Sumner.....	1	1	2	3	4	.....	1	1	.....	2	5	.....	6
Thomas.....	2	4	3	4	10	7	3	3	3	1	1	.....	10
Trego.....	53	52	51	45	62	62	63	68	53	79	64	39	12
Wabsunsee.....	6	9	9	4	6	6	5	6	16	9	7	5	8
Wallace.....	10	11	11	10	10	14	14	8	15	13	11	9	4
Washington.....	21	22	13	23	27	21	25	28	31	26	27	22	23
Wichita.....	8	1	5	3	4	4	4	7	3	4	6	3	8
Wilson.....	38	26	36	35	25	35	39	33	39	40	39	17	18
Woodson.....	3	2	2	3	2	4	2	3	2	1	4	1	.....
Wyandotte, except Kansas City.....	44	26	36	38	34	31	48	42	49	40	42	36	11
	24	16	10	16	19	18	14	20	17	20	13	18	6
	32	30	25	29	27	29	30	44	29	34	31	12	11
	186	158	156	181	172	171	194	200	173	189	146	127	49

TABLE No. 22. Showing the number of births, deaths of children under one year, and infant mortality rate, 1914 and 1915.

COUNTIES.	1914.			1915.		
	Births.	Deaths under 1 year.	Infant mortality rate.	Births.	Deaths under 1 year.	Infant mortality rate.
Allen	418	34	8.1	533	24	4.5
Anderson	237	17	7.2	270	15	5.9
Atchison, <i>except</i>	217	13	6.0	213	11	5.2
Atchison city	244	19	7.8	232	16	6.9
Barber	203	17	8.3	236	18	7.6
Barton	428	37	8.6	441	36	8.2
Bourbon, <i>except</i>	251	16	4.6	271	15	5.5
Fort Scott	224	23	10.3	222	25	11.3
Brown	584	38	7.1	459	25	5.5
Butler	473	39	8.2	422	20	4.7
Chase	166	9	5.4	162	13	8.0
Chautauqua	245	13	5.3	260	22	8.1
Cherokee	843	92	10.9	825	71	8.6
Cheyenne	109	7	6.4	119	6	5.0
Clark	109	10	9.2	132	6	4.6
Clay	358	24	6.7	352	17	4.8
Cloud	438	33	7.5	468	25	5.3
Coffey	273	17	6.2	270	14	4.7
Comanche	140	7	7.0	111	7	6.3
Cowley	622	48	7.7	669	27	4.3
Crawford, <i>except</i>	949	89	9.4	1,065	97	9.3
Pittsburg	341	47	13.8	324	24	7.4
Decatur	137	5	3.6	190	8	4.2
Dickinson	546	31	5.9	583	31	5.3
Doniphan	361	26	7.2	327	24	7.3
Douglas, <i>except</i>	200	12	6.0	191	8	6.3
Lawrence	179	18	10.1	194	18	7.2
Edwards	156	16	10.3	158	14	8.2
Elk	163	10	6.1	200	14	7.0
Ellis	493	30	6.1	493	43	8.7
Ellsworth	261	12	4.6	266	20	7.5
Finney	125	11	8.8	105	17	16.2
Ford	399	25	6.3	387	26	6.7
Franklin	429	29	6.8	423	32	7.6
Geary	199	14	5.5	232	6	2.6
Gove	89	6	6.7	122	9	6.6
Graham	184	17	9.2	205	18	8.8
Grant	18	1	5.5	10	4	4.0
Gray	102	7	6.8	88	7	8.0
Greeley	17	1	5.9	10		
Greenwood	281	12	4.3	344	26	7.5
Hamilton	55	3	6.6	52	8	15.4
Harper	292	15	5.1	335	26	7.8
Harvey	424	30	7.1	461	29	6.3
Haskell	25	5	20.0	24	5	20.8
Hodgeman	71	6	8.5	88	7	8.0
Jackson	305	29	9.5	324	21	6.2
Jefferson	299	25	8.4	319	18	5.6
Jewell	417	26	6.2	390	14	3.6
Johnson	328	16	4.9	322	23	7.1
Kearny	49	3	6.1	64	3	4.7
Kingman	289	21	7.3	322	22	6.6
Kiowa	194	12	6.2	198	18	8.1
Labette, <i>except</i>	329	20	6.1	387	16	4.1
Parsons	235	26	19.2	268	18	6.8
Lane	52	1	1.9	61	4	6.5
Leavenworth, <i>except</i>	271	23	8.5	304	12	3.9
Leavenworth city	334	41	12.3	231	26	8.2
Lincoln	271	19	7.0	271	11	4.4
Linn	284	13	4.6	288	18	6.3
Logan	56	1	1.8	61	6	9.8
Lyon	522	25	4.8	504	38	11.3
Marion	550	46	8.4	534	40	7.7
Marshall	430	44	10.2	433	37	9.0
McPherson	486	25	5.2	484	33	6.2
Meade	124	6	4.8	166	8	4.8
Miami	339	16	4.7	321	24	7.8
Mitchell	288	13	4.5	308	24	7.8
Montgomery, <i>except</i>	401	35	8.5	520	37	7.1
Coffeyville	307	39	12.7	268	25	9.3
Independence	210	29	13.8	194	19	9.8

TABLE No. 22—CONCLUDED.

COUNTIES.	1914.			1915.		
	Births.	Deaths under 1 year.	Infant mortality rate.	Births.	Deaths under 1 year.	Infant mortality rate.
Morris.....	260	15	5.8	266	16	6.0
Morton.....	85			26		
Nemaha.....	446	29	6.5	404	23	5.6
Neosho.....	485	34	7.0	502	30	6.0
Ness.....	102	7	6.9	147	10	6.8
Norton.....	250	13	5.2	309	16	5.2
Osage.....	426	19	4.1	415	27	6.5
Osborne.....	309	16	5.2	297	20	6.7
Ottawa.....	241	14	5.8	244	22	9.4
Pawnee.....	168	18	10.7	185	16	8.1
Phillips.....	255	10	3.9	327	14	4.3
Pottawatomie.....	374	22	5.9	371	16	4.3
Pratt.....	239	22	9.2	254	19	7.5
Rawlins.....	144	13	9.8	162	11	6.8
Reno, <i>except</i>	571	38	5.8	537	23	4.3
Hutchinson.....	339	33	9.7	368	29	7.9
Republic.....	413	17	4.1	358	17	4.7
Rice.....	338	24	7.1	332	25	7.5
Riley.....	344	19	5.5	376	14	3.5
Rooks.....	273	17	6.2	228	14	6.1
Rush.....	199	13	6.5	219	16	7.8
Russell.....	205	25	12.2	236	23	9.8
Saline.....	408	17	4.2	447	33	7.4
Scott.....	47	3	6.4	55	5	9.1
Sedgwick, <i>except</i>	404	34	8.4	472	20	4.2
Wichita.....	1,005	88	8.7	1,045	93	9.1
Seward.....	89	10	12.2	121	10	8.8
Shawnee, <i>except</i>	283	17	6.0	308	26	8.5
Topeka.....	995	88	9.0	1,070	85	7.9
Sheridan.....	116	5	4.3	150	11	6.7
Sherman.....	92	3	3.3	91	3	3.3
Smith.....	361	28	7.8	394	27	6.9
Stafford.....	297	19	6.4	307	23	7.5
Stanton.....	12			26	2	7.7
Stevens.....	63	5	7.9	51	5	9.8
Sumner.....	636	56	8.8	698	37	5.3
Thomas.....	77	3	3.9	96	4	4.2
Trego.....	85	6	7.1	140	13	9.3
Wabaunsee.....	241	14	5.8	309	20	6.5
Wallace.....	59			60	5	6.7
Washington.....	416	27	6.5	420	12	2.9
Wichita.....	18			29	3	10.3
Wilson.....	528	40	7.6	477	27	5.5
Woodson.....	160	10	6.2	211	9	4.8
Wyandotte, <i>except</i>	330	26	7.9	363	34	9.4
Kansas City.....	1,993	192	9.6	2,102	216	10.3

TABLE No. 23. Probate judges' reports of marriage licenses issued by months, May to December, inclusive, 1913.

COUNTIES.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
The State.....	1,281	1,664	1,144	1,292	1,520	1,504	1,407	1,560	11,372
Allen.....	16	22	16	18	29	31	17	26	175
Anderson.....	9	9	6	9	10	12	12	9	76
Atchison.....	13	39	16	24	33	21	27	20	193
Barber.....	9	7	8	4	6	4	11	6	55
Barton.....	15	15	12	12	13	12	12	11	102
Bourbon.....	29	25	16	18	20	22	23	34	187
Brown.....	14	15	5	11	11	14	9	17	96
Butler.....	11	12	10	11	11	6	13	18	92
Chase.....	8	4	6	7	3	5	5	7	40
Chautauqua.....	9	10	8	7	6	6	8	9	63
Cherokee.....	46	34	30	39	30	37	36	46	298
Cheyenne.....	3	2	3	4	3	3	2	5	25
Clark.....	4	5	2	2	2	4	1	.....	20
Clay.....	13	19	6	9	15	12	12	10	96
Cloud.....	16	15	15	14	16	20	15	14	125
Coffey.....	8	5	5	9	13	11	6	8	65
Comanche.....	4	.....	3	5	4	5	1	5	27
Cowley.....	25	30	20	19	22	31	30	34	211
Crawford.....	54	47	47	39	62	47	56	77	429
Decatur.....	4	7	1	5	4	3	4	7	35
Dickinson.....	17	28	18	16	13	20	9	14	135
Doniphan.....	12	9	13	9	12	14	5	14	88
Douglas.....	18	31	15	28	22	31	23	31	199
Edwards.....	8	6	5	7	10	5	7	6	54
Elk.....	3	5	6	4	9	4	10	8	49
Ellis.....	10	8	9	2	13	11	4	5	62
Ellsworth.....	7	8	6	9	12	12	2	10	66
Finney.....	3	3	5	7	4	7	3	8	40
Ford.....	12	14	11	10	11	17	9	10	94
Franklin.....	13	7	13	22	19	20	25	20	139
Geary.....	14	11	8	8	9	5	12	12	79
Gove.....	4	2	2	.....	.....	1	2	2	13
Graham.....	4	5	7	4	1	3	1	2	27
Grant.....	1	.....	.....	.....	.....	1	.....	.....	2
Gray.....	1	3	3	1	1	5	3	2	19
Greeley.....	.....	1	3	.....	1	.....	.....	1	6
Greenwood.....	4	6	6	8	9	13	4	8	58
Hamilton.....	1	1	1	3	3	4	6	4	23
Harper.....	13	11	7	13	8	10	5	10	77
Harvey.....	23	26	21	30	23	21	28	23	195
Haskell.....	.....	1	.....	1	.....	.....	.....	.....	2
Hodgeman.....	2	.....	.....	.....	1	2	1	1	7
Jackson.....	8	21	4	14	15	9	13	16	100
Jefferson.....	5	8	4	5	2	1	4	3	32
Jewell.....	8	10	8	7	13	6	8	11	71
Johnson.....	37	38	25	27	33	20	26	35	241
Kearny.....	2	1	1	2	1	.....	.....	.....	7
Kingman.....	5	9	8	11	11	14	11	14	83
Kiowa.....	4	9	8	6	7	3	6	7	50
Labette.....	15	26	16	20	33	20	25	24	179
Lane.....	2	2	.....	3	1	1	2	4	15
Leavenworth.....	45	80	67	57	51	79	82	66	527
Lincoln.....	5	14	12	5	14	3	10	6	69
Linn.....	7	5	7	9	13	6	10	17	74
Logan.....	.....	3	.....	1	2	5	1	1	13
Lyon.....	20	31	15	22	33	27	20	31	199
Marion.....	6	10	7	10	17	19	15	7	91
Marshall.....	8	14	10	13	10	11	15	5	86
McPherson.....	18	14	14	14	10	14	11	11	106
Meade.....	7	5	4	5	5	2	1	4	33
Miami.....	8	19	14	14	18	11	25	20	129
Mitchell.....	9	18	12	7	17	9	16	22	110
Montgomery.....	38	62	47	59	64	57	66	65	458
Morris.....	12	13	4	3	5	5	7	6	55

TABLE No. 23—CONTINUED.

COUNTIES.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Morton.....		1	2	1	2	1		3	10
Nemaha.....	5	12	8	10	7	10	6	13	71
Neosho.....	14	17	7	20	12	16	13	27	126
Ness.....	2	3	1	8	2		4		15
Norton.....	11	9	8	12	8	5	10	12	75
Osage.....	4	8	6	4	8	8	10	10	58
Osborne.....	3	5	10	7	11	18	7	11	72
Ottawa.....	4	5	4	9	14	7	5	10	58
Pawnee.....	11	7		3	5	7	5	3	41
Phillips.....	6	8	8	5	10	16	9	15	77
Pottawatomie.....	4	6	3	5	5	9	4	1	37
Pratt.....	10	14	10	11	7	10	4	17	83
Rawlins.....	3	4	3	2	4	8	3		27
Reno.....	41	35	35	35	41	44	31	45	307
Republic.....	11	17	6	9	9	12	13	9	86
Rice.....	12	11	8	7	10	8	5	6	67
Riley.....	14	22	10	10	9	20	9	19	113
Rooks.....	1	10	6	6	9	11	7	6	56
Rush.....	4	7	4	5	3	2	4	1	30
Russell.....	9	11	5	8	2	4	2	5	46
Saline.....	19	41	16	17	20	24	24	19	180
Scott.....	1	6	2		3	2	3	3	20
Sedgwick.....	80	106	77	68	105	105	82	90	713
Seward.....	5	5	5	3	4	4	5	6	37
Shawnee.....	52	95	49	57	86	74	78	74	565
Sheridan.....	2		2	1	3	3		2	13
Sherman.....	8	3	4	2	5	9	6	7	44
Smith.....	10	9	11	11	15	8	9	13	86
Stafford.....	5	9	3	11	5	11	8	8	60
Stanton.....					1	1			2
Stevens.....	3	3	2	3	3	3	3		20
Sumner.....	20	20	18	14	23	14	16	21	146
Thomas.....		1	3	2	3	2	4	3	18
Trego.....	4	2	3		5	4	1	2	21
Wabaunsee.....	1	10	2	5	6	8	6	9	47
Wallace.....	2	1	1	1				2	7
Washington.....	6	10	1	9	13	8	12	8	67
Wichita.....	1	1	1		2		5		10
Wilson.....	5	14	12	13	15	8	15	22	104
Woodson.....	8	14	8	7	15	13	6	8	79
Wyandotte.....	136	182	99	134	141	153	140	121	1,106

TABLE No. 23—CONTINUED. Probate judges' reports of marriage licenses issued, by months, 1914.

COUNTIES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
The State	1,204	1,199	1,084	1,393	1,235	1,623	1,124	1,393	1,470	1,514	1,574	1,735	16,548
Allen	29	20	14	20	20	21	18	16	22	31	31	42	284
Anderson	10	12	11	5	7	7	5	4	8	8	7	18	102
Atchison	17	13	20	25	15	25	13	17	17	23	22	23	230
Barber	8	8	5	9	9	7	8	4	5	6	6	15	90
Barton	12	10	10	15	15	20	13	17	24	14	19	15	184
Bourbon	23	18	22	21	18	23	16	22	33	24	19	33	272
Brown	11	9	8	11	11	17	8	10	18	13	19	15	160
Butler	8	11	8	11	8	19	6	8	7	12	19	18	135
Chase	2	4	11	4	3	2	4	5	5	3	5	6	54
Chautauqua	10	8	6	10	10	10	6	12	9	4	12	6	103
Cherokee	38	30	26	29	39	40	31	30	35	31	31	42	402
Cheyenne	2	2	3	4	2	2	2	4	2	6	5	4	38
Clark . . . . .	.....	.....	.....	.....	3	1	.....	3	5	1	4	3	25
Clay	5	9	11	14	9	18	6	13	11	19	16	16	147
Cloud	10	7	11	11	15	18	12	19	16	20	16	21	176
Coffey	6	11	4	7	6	9	6	11	6	10	13	11	100
Comanche . . . . .	.....	1	1	9	2	4	2	5	4	3	3	4	38
Cowley	25	28	36	25	26	31	24	37	22	37	27	44	362
Crawford	66	58	32	62	60	59	46	37	44	53	52	74	648
Decatur	3	3	4	6	4	6	2	9	5	5	2	3	52
Dickinson	14	15	12	19	13	24	10	19	14	10	18	18	186
Doniphan	9	12	7	8	5	16	11	11	9	10	9	17	124
Douglas	26	23	16	27	23	37	16	18	25	17	20	25	273
Edwards	5	1	5	5	2	4	6	11	11	9	3	15	77
Elk	7	4	2	5	4	7	3	5	7	7	7	8	66
Ellis	6	4	2	9	13	6	5	2	8	18	12	7	92
Ellsworth	5	4	3	7	10	8	7	7	9	18	8	6	87
Finney	5	5	3	5	6	10	5	2	7	3	5	9	65
Ford	5	3	7	17	15	14	11	21	20	14	12	14	153
Franklin	16	18	21	17	9	24	13	14	31	9	20	24	216
Geary	7	9	12	6	8	15	5	4	9	11	14	9	109
Gove . . . . .	.....	2	.....	1	.....	1	1	2	2	2	.....	1	12
Graham	1	4	2	3	4	4	1	10	7	10	8	12	66

[illegible]

TABLE No. 23—1914—CONTINUED.

COUNTIES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Pratt.....	7	6	6	13	8	13	9	20	7	11	10	17	127
Rawlins.....	2	.....	1	3	3	4	3	.....	4	2	2	4	28
Reno.....	32	22	31	23	23	39	37	28	53	43	38	52	426
Republic.....	12	14	9	10	8	9	6	15	10	12	17	15	137
Rice.....	9	4	8	5	8	13	10	11	10	7	9	9	103
Riley.....	12	13	11	20	10	21	7	17	14	14	22	17	178
Rooks.....	6	5	6	5	1	7	6	10	12	11	14	7	90
Rush.....	9	2	5	7	3	8	4	8	7	12	6	12	83
Russell.....	4	10	3	5	2	3	12	11	5	8	10	7	85
Saline.....	13	22	19	20	18	40	18	30	24	19	32	27	282
Scott.....	2	1	2	2	.....	4	2	2	3	4	4	3	29
Sedgwick.....	59	62	49	65	72	83	61	83	97	92	95	93	911
Seward.....	3	5	6	2	3	7	5	7	8	6	9	8	69
Shawnee.....	69	51	55	69	62	84	71	63	58	93	95	79	849
Sheridan.....	2	2	2	6	4	1	1	1	2	1	1	3	26
Sherman.....	6	6	3	3	10	9	4	3	10	3	9	3	74
Smith.....	7	10	5	8	10	11	3	10	11	10	13	14	112
Stafford.....	5	1	3	7	7	8	10	12	7	17	6	8	91
Stanton.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Stevens.....	3	2	2	.....	.....	8	.....	1	1	.....	1	6	19
Sumner.....	14	16	17	10	20	23	16	19	19	19	22	23	218
Thomas.....	2	1	4	5	2	6	2	6	4	7	7	5	51
Trego.....	3	3	2	2	3	.....	2	7	1	5	6	2	36
Wabaunsee.....	6	8	7	9	4	.....	6	8	2	9	3	6	68
Wallace.....	1	1	1	3	.....	4	1	1	1	1	1	5	20
Washington.....	5	12	7	13	8	14	3	8	5	14	11	11	11
Wichita.....	2	1	1	1	1	1	.....	1	2	1	4	1	16
Wilson.....	6	21	10	17	10	19	10	15	15	16	13	18	170
Woodson.....	8	6	9	8	5	7	5	3	8	6	14	9	88
Wyandotte.....	121	106	92	130	124	189	98	130	140	182	141	122	1,525

TABLE No. 23—CONTINUED. Probate judges' reports of marriage licenses issued, by months, 1915.

COUNTIES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
The State	1,110	1,212	1,128	1,367	1,252	1,791	1,081	1,397	1,554	1,610	1,628	1,853	16,988
Allen	17	22	25	15	20	25	27	27	32	24	34	38	306
Anderson	12	11	11	11	6	20	9	6	13	12	13	7	131
Atchison	18	19	13	28	25	31	20	18	26	22	25	31	276
Barber	4	2	3	3	2	8	13	9	7	3	6	13	73
Barton	4	11	12	21	19	15	7	20	25	26	26	14	200
Bourbon	27	23	17	13	22	17	13	17	29	23	18	33	252
Brown	14	24	12	9	13	18	4	16	14	12	13	15	164
Butler	7	12	8	10	8	15	11	9	11	11	5	19	126
Chase	6	8	4	2	2	6	1	4	7	4	11	9	64
Chautauqua	11	9	9	6	7	8	1	6	7	8	7	9	88
Cherokee	33	19	23	29	25	44	29	36	34	26	35	39	377
Cheyenne	3	5	2	2	2	6	1	2	4	7	3	1	38
Clark	3	2	1	6	2	3	1	1	1	1	7	2	30
Clay	6	6	11	12	14	10	7	9	13	11	17	21	137
Cloud	11	6	9	17	12	18	9	15	14	17	20	23	171
Coffey	3	9	7	8	5	10	8	7	8	11	10	15	101
Comanche	2	5	2	5	6	7	.....	3	8	4	6	5	53
Cowley	24	31	25	27	30	35	13	20	23	32	34	39	343
Crawford	42	42	40	41	52	64	47	39	53	55	60	65	600
Decatur . . . . .	.....	3	2	9	10	4	4	16	10	12	5	8	78
Dickinson	10	14	12	20	7	25	7	14	14	21	13	20	177
Doniphan	3	17	11	8	8	13	8	13	14	11	14	8	128
Douglas	19	12	8	23	17	33	17	18	26	31	17	23	244
Edwards	8	8	4	3	5	5	4	11	8	7	3	12	78
Elk	7	5	3	7	4	8	3	1	4	3	5	9	59
Ellis	14	8	2	11	19	10	4	9	13	16	16	3	125
Ellsworth	6	5	8	17	5	10	2	3	5	9	10	11	96
Finney	7	7	7	9	7	14	1	5	6	9	8	6	86
Ford	6	9	10	12	6	19	13	17	23	15	24	20	174
Franklin	9	19	14	17	12	21	16	13	32	18	18	32	221
Geary	8	7	7	11	13	13	5	3	14	7	14	10	117
Gove	1	.....	.....	2	2	2	2	2	3	2	2	5	23
Graham	1	5	4	5	6	5	2	9	3	4	6	5	55

TABLE No. 23—1915—CONCLUDED.

COUNTIES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Grant.....	.....	2	.....	.....	2	2	.....	.....	.....	2	.....	1	9
Gray.....	1	2	.....	2	3	4	2	2	4	1	5	4	30
Greeley.....	2	2	.....	1	5	.....	3	2	1	.....	1	1	18
Greenwood.....	7	12	11	5	1	5	2	6	8	5	5	13	80
Hamilton.....	1	3	2	2	5	8	5	5	4	4	3	6	48
Harper.....	8	6	6	8	9	10	11	13	15	14	16	13	129
Harvey.....	19	17	26	30	30	39	20	28	34	36	30	29	338
Haskell.....	.....	.....	.....	.....	2	1	.....	2	.....	1	.....	2	8
Hodgeman.....	1	.....	1	1	.....	1	1	4	2	3	2	1	17
Jackson.....	8	16	21	15	8	9	7	7	14	6	12	10	133
Jefferson.....	5	6	7	4	2	2	5	3	9	4	7	6	60
Jewell.....	2	14	8	11	5	14	9	9	6	9	5	18	110
Johnson.....	23	30	24	27	26	38	28	29	30	39	57	50	401
Kearny.....	.....	1	.....	2	2	5	1	.....	1	3	1	2	18
Kingman.....	5	5	8	7	6	8	5	8	13	14	8	13	100
Kiowa.....	2	5	2	5	5	6	4	8	3	6	4	6	56
Labette.....	10	18	16	19	20	20	11	15	20	24	17	32	222
Lane.....	.....	3	.....	.....	.....	3	2	1	1	3	1	4	18
Leavenworth.....	46	44	40	45	59	66	51	49	44	50	53	64	611
Lincoln.....	6	3	4	8	7	17	8	10	5	8	8	11	89
Linn.....	7	7	4	6	5	10	7	4	4	6	7	9	76
Logan.....	1	.....	1	.....	2	2	.....	6	.....	3	1	2	18
Lyon.....	12	19	21	26	25	34	17	16	33	36	33	33	305
Marion.....	12	12	14	18	15	18	9	14	8	14	12	18	164
Marshall.....	14	14	9	17	9	10	6	12	6	10	13	18	138
McPherson.....	8	13	14	12	19	26	10	15	16	11	20	18	177
Meade.....	4	2	6	4	4	14	1	8	10	3	6	6	68
Miami.....	20	15	13	16	11	16	8	11	25	22	13	28	198
Mitchell.....	9	11	11	14	10	18	6	14	10	17	10	18	148
Montgomery.....	45	48	50	56	45	72	46	52	63	55	66	71	669
Morris.....	8	11	3	6	10	14	5	9	5	12	8	13	104
Morton.....	.....	.....	2	.....	1	1	.....	1	1	2	.....	4	12
Nemaha.....	13	10	6	15	6	13	4	2	4	6	9	12	100
Neosho.....	17	14	16	10	10	12	9	14	21	14	15	18	170
Newton.....	3	4	1	4	6	10	.....	6	2	4	10	7	67

Norton.....	13	9	12	15	6	14	3	17	10	14	11	15	189
Osage.....	4	9	9	11	4	8	7	5	6	17	12	18	105
Osborne.....	7	8	8	12	10	7	3	15	18	12	15	16	181
Ottawa.....	6	3	4	2	4	7	5	9	10	9	7	6	72
Pawnee.....	6	8	10	8	9	17	17	7	6	8	11	7	114
Phillips.....	5	6	11	10	5	7	6	10	13	13	11	14	111
Pottawatomie.....	3	4	3	9	5	5	2	2	6	7	6	8	60
Pratt.....	6	7	5	8	6	6	14	23	17	13	16	11	132
Rawlins.....	2	2	5	2	4	3	2	5	5	8	3	6	47
Reno.....	34	26	36	39	40	45	38	49	46	55	43	60	511
Republic.....	13	11	12	7	7	15	7	12	10	15	15	20	144
Rice.....	5	2	6	6	8	21	3	9	13	11	8	13	105
Riley.....	9	11	8	10	11	21	9	14	13	12	12	16	146
Rooks.....	4	8	6	12	9	8	7	6	9	14	8	8	99
Rush.....	7	6	4	7	6	4	3	4	6	11	5	6	69
Russell.....	7	4	2	7	5	8	2	10	8	5	7	9	74
Saline.....	14	12	18	26	12	42	20	19	17	34	24	38	276
Scott.....	1	1	3	1	2	1	2	2	2	1	2	5	23
Sedgwick.....	73	52	63	62	61	113	65	82	86	113	110	110	990
Seward.....	9	7	10	8	8	7	9	11	6	7	6	8	96
Shawnee.....	54	62	52	63	51	92	53	61	81	89	91	84	833
Sheridan.....	4	7	.....	8	2	3	1	2	3	1	4	4	39
Sherman.....	5	7	2	5	6	8	5	4	5	2	9	7	65
Smith.....	5	10	10	12	9	16	18	13	13	16	13	17	147
Stafford.....	8	8	2	10	5	12	5	16	8	6	6	7	98
Stanton.....	.....	.....	.....	1	.....	1	.....	.....	1	1	3	1	8
Stevens.....	1	.....	.....	2	.....	3	3	5	2	7	1	2	26
Sumner.....	11	15	20	18	15	22	20	27	24	14	16	22	219
Thomas.....	5	5	5	6	7	3	4	8	2	2	5	10	62
Trego.....	5	4	2	4	1	4	5	7	8	4	8	7	59
Wabaunsee.....	5	7	11	7	6	4	6	5	2	4	4	12	73
Wallace.....	1	2	1	3	3	4	1	2	2	4	4	3	26
Washington.....	8	11	8	8	10	9	7	4	17	15	19	15	131
Wichita.....	.....	3	.....	1	.....	2	1	2	.....	2	1	.....	12
Wilson.....	10	26	15	13	14	16	7	18	12	12	15	31	189
Woodson.....	3	4	7	4	10	12	6	10	9	4	16	7	92
Wyandotte.....	93	91	80	130	123	151	108	104	127	136	118	119	1,380

TABLE No. 24. Showing population, marriages and marriage rates per 1000, 1914 and 1915.

COUNTIES.	1914.			1915.		
	Popula- tion.	Mar- riages.	Mar- riage rate per 1,000.	Popula- tion.	Mar- riages.	Mar- riage rate per 1,000.
The State.....	.....	16,548	9.9	.....	16,988	10.2
Allen.....	23,685	284	12.0	23,515	306	13.0
Anderson.....	12,689	102	8.0	13,264	131	9.8
Atchison.....	30,081	230	7.6	27,227	276	10.2
Barber.....	10,072	90	8.9	9,203	73	7.9
Barton.....	18,710	184	9.8	18,028	200	11.1
Bourbon.....	25,473	272	10.7	25,082	252	10.1
Brown.....	20,513	150	7.3	20,684	164	7.9
Butler.....	20,095	135	6.7	20,788	126	6.1
Chase.....	6,695	54	8.1	7,154	64	9.0
Chautauqua.....	10,712	103	9.6	11,236	88	7.9
Cherokee.....	36,249	402	11.1	36,870	377	10.4
Cheyenne.....	4,082	38	9.3	4,114	38	9.2
Clark.....	4,043	25	6.2	4,290	30	7.0
Clay.....	15,212	147	9.7	14,902	137	9.2
Cloud.....	19,872	176	8.8	19,316	171	8.9
Coffey.....	15,158	100	6.6	14,986	101	6.7
Comanche.....	4,113	38	9.2	4,608	53	11.5
Cowley.....	31,353	362	11.5	29,979	343	11.4
Crawford.....	58,453	648	11.1	60,289	600	9.9
Decatur.....	6,828	52	7.6	7,502	78	10.4
Dickinson.....	25,220	186	7.4	25,339	177	7.0
Doniphan.....	15,537	124	8.0	14,544	128	8.8
Douglas.....	25,416	273	10.7	25,130	244	9.7
Edwards.....	6,750	77	11.4	6,734	78	11.6
Elk.....	10,063	66	6.5	10,035	59	5.9
Ellis.....	12,715	92	7.2	13,197	125	9.5
Ellsworth.....	10,011	87	8.7	10,481	96	9.1
Finney.....	5,615	65	11.6	6,016	86	14.3
Ford.....	12,125	153	12.6	13,152	174	13.2
Franklin.....	20,694	216	10.4	12,103	221	18.3
Geary.....	10,091	109	10.8	10,063	117	11.6
Gove.....	3,771	12	3.2	4,010	23	5.8
Graham.....	7,947	66	8.3	7,466	55	7.4
Grant.....	866	2	2.3	900	9	10.0
Gray.....	3,411	22	6.5	3,674	30	8.2
Greeley.....	982	11	11.2	913	18	19.7
Greenwood.....	14,155	87	6.1	14,500	80	5.5
Hamilton.....	2,239	40	17.8	2,253	48	21.3
Harper.....	12,975	125	9.6	13,316	129	9.7
Harvey.....	18,584	277	14.9	18,663	338	18.1
Haskell.....	896	8	8.9	995	8	8.0
Hodgeman.....	2,846	17	6.0	3,165	17	5.4
Jackson.....	15,847	135	8.5	15,668	133	8.5
Jefferson.....	15,714	64	4.1	15,769	60	3.8
Jewell.....	16,606	122	7.3	17,165	110	6.4
Johnson.....	19,705	347	17.6	18,507	401	21.6
Kearny.....	2,108	16	7.6	2,316	18	7.8
Kingman.....	12,009	114	9.5	12,612	100	7.9
Kiowa.....	6,266	58	9.2	6,464	56	8.6
Labette.....	32,097	264	8.2	31,014	222	7.2
Lane.....	2,110	20	9.5	2,120	18	8.5
Leavenworth.....	40,392	648	16.0	40,625	611	15.1
Lincoln.....	10,183	92	9.0	10,433	89	8.5
Linn.....	16,237	72	4.4	15,013	76	5.1
Logan.....	2,822	13	7.1	3,013	18	6.0
Lyon.....	26,438	249	9.4	26,468	305	11.5
Marion.....	22,106	155	7.0	21,577	164	7.6
Marshall.....	21,881	154	7.0	21,757	133	6.3
McPherson.....	20,786	153	7.0	21,213	177	8.3

TABLE No. 24—CONCLUDED.

COUNTIES.	1914.			1915.		
	Popula- tion.	Mar- riages.	Mar- riage rate per 1,000.	Popula- tion.	Mar- riages.	Mar- riage rate per 1,000.
Meade.....	5,044	53	10.5	5,276	68	12.9
Miami.....	19,466	178	9.1	18,676	198	10.6
Mitchell.....	14,291	130	9.1	18,731	149	10.9
Montgomery.....	46,816	675	14.4	49,824	669	13.4
Morris.....	11,658	109	9.3	11,810	104	8.8
Morton.....	1,582	11	6.9	1,729	12	6.9
Nemaha.....	19,418	129	6.6	18,309	100	5.5
Neosho.....	23,831	144	6.2	23,050	170	7.4
Ness.....	6,075	33	5.4	5,547	57	10.3
Norton.....	10,129	94	9.3	10,398	139	13.4
Osage.....	20,014	87	4.4	20,072	105	5.2
Osborne.....	12,712	93	7.3	12,973	131	10.1
Ottawa.....	11,428	74	6.5	11,605	72	6.2
Pawnee.....	7,846	113	14.3	8,661	114	13.2
Phillips.....	12,675	130	10.2	13,220	111	8.4
Pottawatomie.....	16,415	62	3.8	16,105	60	3.7
Pratt.....	11,031	127	11.5	11,642	132	11.4
Rawlins.....	5,419	28	5.2	5,702	47	8.2
Reno.....	39,738	426	10.7	40,448	511	12.6
Republic.....	17,208	137	8.0	16,915	144	8.5
Rice.....	14,291	103	7.2	14,437	105	7.3
Riley.....	17,591	178	10.1	16,518	146	8.8
Rooks.....	10,167	90	8.8	10,596	99	9.3
Rush.....	7,435	83	11.2	8,065	69	8.5
Russell.....	10,996	85	7.7	11,047	74	6.7
Saline.....	20,860	282	13.5	20,665	276	13.3
Scott.....	2,203	29	13.2	2,288	23	10.0
Sedgwick.....	78,808	911	11.6	73,294	990	13.5
Seward.....	4,187	69	16.5	4,498	96	21.3
Shawnee.....	70,091	849	12.1	64,661	833	12.9
Sheridan.....	4,342	26	6.0	4,873	39	8.0
Sherman.....	4,018	74	18.3	4,043	65	16.1
Smith.....	15,549	112	7.2	15,308	147	9.6
Stafford.....	11,304	91	8.0	11,383	93	8.1
Stanton.....	673	1	14.9	824	8	9.7
Stevens.....	2,217	19	8.6	2,370	26	11.0
Sumner.....	27,807	218	7.8	28,027	219	7.8
Thomas.....	3,530	51	9.2	3,996	62	15.5
Trego.....	4,314	36	8.3	4,623	59	12.8
Wabaunsee.....	12,173	68	5.6	11,904	73	6.1
Wallace.....	2,016	20	9.9	2,090	26	12.4
Washington.....	19,370	111	5.7	19,001	131	6.9
Wichita.....	1,410	16	11.3	1,519	12	7.9
Wilson.....	19,008	170	8.9	20,067	189	9.4
Woodson.....	9,152	88	9.6	9,331	92	9.9
Wyandotte.....	105,996	1,525	14.3	110,549	1,380	12.5

PART II.

**DIVISION OF COMMUNICABLE DISEASES
AND SANITATION.**

(291)

REPORT OF THE DIVISION OF COMMUNICABLE DISEASES AND SANITATION.

JOHN J. SIPPY, Epidemiologist.

FOREWORD.

THE reporting of communicable disease is the index of community interest in the control of disease. While physicians are always more than willing to assist health authorities in securing knowledge of the existence of disease, yet they are often deterred from prompt reporting or become indifferent through actual opposition or indifference to preventive measures on the part of respective communities. While the simile is an old one, yet it may be said that no fire department can be at all efficient without a proper fire-alarm system; so no health department can be efficient without a thorough reporting and proper knowledge of the existence of diseases.

Health departments in the past have been largely dependent upon mortality reports for forming estimates of the prevalence of disease. Yet, when it is considered that the virulence of epidemics vary largely in fatality, it may readily be seen that mortality reports may lead to many false conclusions as to the extent and prevalence of diseases. It is the duty, therefore, not only of communities but of the entire state to insist upon complete and thorough registration of all cases of preventable disease. Furthermore, to be of service in control, these reports must be made promptly. A report of a fire after the building has been consumed is of no value to a fire department whose duty it is to eliminate and prevent conflagrations. A report of a case of communicable disease is of no value to a health department when sent in too late to prevent further infections.

At the December, 1913, meeting the Kansas State Board of Health enacted the model morbidity report regulation as recommended by the Association of State and Provincial Boards of Health of North America. This regulation was published in the January, 1914, *BULLETIN*, and was put into actual operation that same month. Being somewhat new and confusing at first to physicians, efficient results were not seen from its operation until about the middle of the following month. Since then reports have been increasingly better month by month. Not only has it been necessary to educate physicians and others in the prompt reporting of individual cases, but constant changes in health officers necessitate the education of every incoming new health officer in his share of the labor of collecting reports.

Under the regulation, health officers are expected to receive notification of every case of disease within twenty-four hours after diagnosis or suspicion of contagion. This gives the local health officer the opportunity

for prompt investigation and the installation of preventive measures. At the end of each week the local health office, after transcribing reports into a record book, is obliged to send to the State Board of Health all original reports received by him during the week. Thus the State Board of Health is kept in constant weekly touch with the prevalence of disease over the state, and the chance that epidemics may spread beyond control of local health authorities is to a large extent precluded, and gives the State Board of Health the opportunity of offering advice and assistance wherever necessary—a very essential feature.

The promptness of local health officers in sending in weekly reports is to a large degree an index to the efficiency of these health officers. It is realized that the local health officer may be doing efficient work in local control and yet be slack in clerical efficiency. However, the average promptness in weekly reports usually typifies the work of the health officer. The local man who is interested in his work keeps in close weekly touch with the State Board of Health. The man who is not interested is usually delinquent and his administration savors of lack of results. The following table of percentages is indicative, with a few exceptions, of the degree of local health-office efficiency in individual counties during the year 1915. It must be remembered, of course, that the work of the health officer is largely dependent upon what his community expects of him and upon the amount of compensation and support given him. It has been well said that public health is a purchasable commodity, and counties and communities derive results in direct proportion to the amounts they expend in public health work.

COUNTIES.

NOTE.—1.92 per cent deducted for each week of missing report.

Per cent.

- 100.00—Brown, Butler, Cloud, Cowley, Harper, Leavenworth, Lincoln, Marion, Osage, Riley, Sherman, Sumner, Woodson.
- 98.08—Cherokee, Gove, Jefferson, Montgomery, Neosho, Norton, Smith, Wilson.
- 96.15—Allen, Chautauqua, Clark, Crawford, Jackson, Nemaha, Rawlins, Sedgwick.
- 94.23—Clay, Doniphan, Elk, Ellsworth, Geary, Kearny, Kiowa, Lane, McPherson, Miami, Mitchell, Ness, Scott, Seward, Trego.
- 92.31—Barton, Franklin, Graham, Hamilton, Labette, Morris, Pawnee, Washington.
- 90.39—Anderson, Coffey, Comanche, Ford, Hodgeman.
- 88.46—Chase, Reno, Republic, Shawnee.
- 86.54—Haskell, Kingman, Lyon, Rice.
- 84.62—Cheyenne.
- 80.77—Harvey, Wallace.
- 78.85—Greenwood, Morton, Thomas.
- 76.92—Gray, Greeley, Phillips, Sheridan.
- 75.00—Rush, Wabaunsee.
- 73.08—Ellis.
- 71.15—Meade, Osborne, Pottawatomie.
- 67.31—Linn, Saline.
- 65.39—Dickinson, Jewell.
- 63.46—Russell, Stafford.
- 61.46—Marshall.
- 57.69—Edwards.

55.77—Douglas, Grant.
53.85—Wichita.
51.93—Ottawa, Stevens.
46.16—Johnson.
44.23—Decatur, Pratt, Wyandotte.
40.39—Finney.
36.54—Logan.
34.62—Barber.
26.92—Atchison.
25.00—Rooks.

CITIES.

Per cent.

100.00—Parsons, Coffeyville, Hutchinson, Wichita, Topeka.
98.08—Leavenworth.
96.15—Fort Scott.
94.23—Kansas City.
69.23—Pittsburg.
30.77—Atchison.

PREVALENCE OF DISEASE.

During the year 1914 there were reported to the State Board of Health 15,971 cases of notifiable diseases. The year 1915 showed considerable improvement, and there were reported 23,442 cases. To those who draw the conclusion that there was an increase in preventable diseases from one year to the other, it is well to direct attention to a comparison of mortality tables of the two years and to point out that there was little or no increase, but rather a decrease, in death rates in the latter year. It being well known that the registration of deaths in Kansas has been most remarkably complete during both of these years, it may safely be assumed, then, that this increase of reports indicates but one fact, namely, a more thorough and complete morbidity registration, and in itself speaks for the success of the operation of the model morbidity report regulation. It is not yet claimed by this division that it is obtaining, by any means, a complete registration of morbidity, and it is only when this latter object is attained that health departments may fully know the results of their efforts of prevention and the degree of their efficiency. It must be further borne in mind that in the study of the tables of 1914 and 1915 apparent increases are accounted for by more complete reporting, and while most of these tables do not indicate a full reporting of morbidity, yet the tables of 1915 more nearly approach the normal in actual prevalence of disease than those of 1914. This explanation applies to all tables. All rates are based on figures of the March 1, 1915, census issued by the State Department of Agriculture.

The total number of cases of notifiable disease reported during the biennium was 39,413. This means that during the past two years one out of every forty-two citizens in the state has suffered from preventable illness. What this means in loss of time, cost of treatment, not to mention funerals, economic life values and loss of efficiency as a result of infections, it is difficult to compute. To secure even a 10 per cent reduction in this economic loss Kansas could well afford to double or even treble the present expenditures of local and city health office admini-

stration, and certainly this result could be readily expected from increased facilities for control of infection.

Tables Nos. 1 and 2 indicate the prevalence of disease by counties.

It has been thought well to make a more complete study of the prevalence of some of these diseases, as follows:

TUBERCULOSIS.

1914—Number of cases reported.....	1,073
Number of deaths.....	1,005
1915—Number of cases reported.....	1,333
Number of deaths	976

For the first time since the enactment of the tuberculosis compulsory notification law, the number of cases reported in 1914 exceeded the number of deaths. Still further improvement in reporting was seen in 1915. This speaks well for earlier diagnoses and for the earlier institution of curative measures for patients and preventive measures against infection of those in contact with cases.

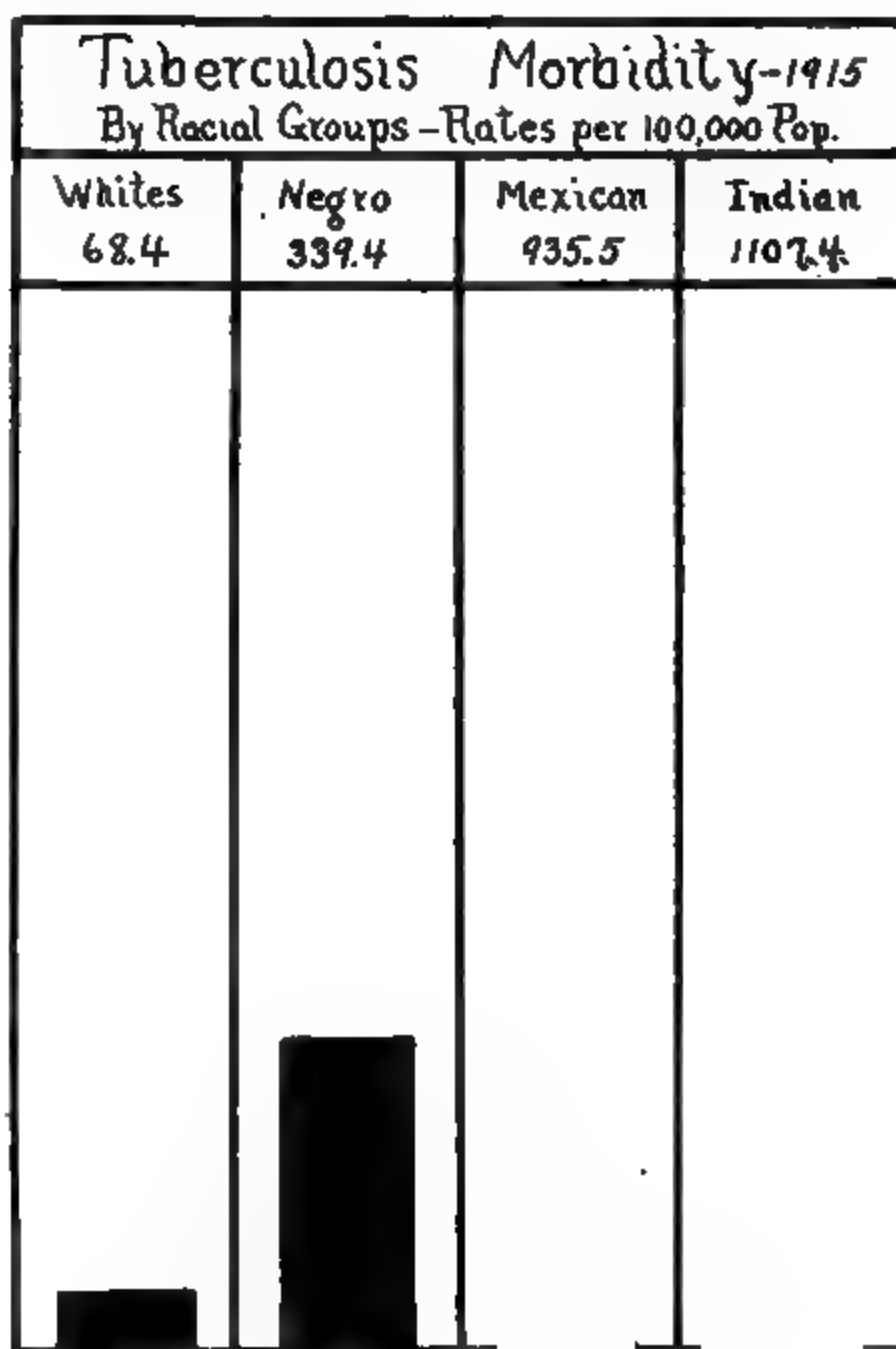


CHART I.

RACES. Table N. 3 and chart No. 1 clearly indicate the well-known fact that tuberculosis is a sociological and housing problem. The greater rates of prevalence of this disease among negroes, Mexicans and Indians, to those who are acquainted with their environments and habits in Kansas, accentuates the effect of contact and the lack of resistance resulting from poor housing, insufficient nourishment and irregular habits. Such rates further accentuate the need of greater education and greater work by preventive agencies among these groups.

SEX. In 1914 the morbidity rate per hundred thousand for males was 70; for females, 62.7. In 1915 the rate for males was 81.4; for females, 85. (See table No. 5.)

NATIVITY. In 1914 the morbidity rate per hundred thousand among American-born citizens was 60.9; foreign-born, 132.9. In 1915 the rate among American-born was 75; foreign-born 182.5. (See tables Nos. 6 and 7.) This increased prevalence among foreign-born is accounted for first, in the infection of a number of Mexicans; second, in the fact of the employment of a number of European immigrants in hazardous occupations in urban centers. At the same time, the foreign-born immigrant seeking a location is never able to secure the favorable environment in either living conditions or occupation, these being, as it were, preëmpted by native-born accustomed to higher standards.

STAGE OF DISEASE. Tables Nos. 8 and 9 speak for themselves. In the past biennium 2332 cases were reported on an average of only 12 days prior to death. In 74 cases report was made on an average of 14 days after death. In other words, too many of our reports of tuberculosis may well be characterized as "*ante-mortem* hunches." The fact that so many cases are not reported until the disease is in its final stages is deplorable. Whether it is due to the failure on the part of physicians to make an early diagnosis or to the failure of infected individuals to seek early medical attention, boards of health are still confronted by the condition that in the large majority of cases measures taken to prevent the infection of other individuals are usually instituted too late. One can not decry too emphatically the custom on the part of many medical men and others of being unwilling to accept a diagnosis of tuberculosis until bacilli are found in the sputum; for when this occurs extensive invasion of infection already prevails and tissues are breaking down. Present-day science has demonstrated early methods of diagnosis, and, at any rate, where there is doubt, patients and their families should always be given the benefit of that doubt and treatment and prophylaxis instituted. While education of the public has done much to reduce the ravages of the disease, these tables alone speak for the need of still further education of every individual in the recognition of early symptoms.

TERMINATIONS. Of the total number of cases reported in 1914, 612 have already been terminated; in 1915, 530 are terminated. Table No. 12 shows methods of termination. The small percentage of arrests or recoveries is, of course, explained by the fact that so many cases fail of recognition until far advanced. Cases in the incipient stages which

Tuberculosis Morbidity by Occupations.

Professions 2.3%

Miscellaneous 1%

Transportation Trades 3.2%

Under 5 years 1.6%

Inmates State Inst. 4.6%

Itinerant Occupations 1.6%

Handling Food Products 5%

Day Laborers 5.8%

Indoor and Sedentary Occupations 6.2%

Students 7.2%

Farmers 10.4%

Trades involving dust and lung irritants 13%

Housewives - 32%

1914-15.

CHART II.

recover are usually not reported. Table No. 13 proves that many patients still look to change of climate for cure. The fallacy of this belief is, of course, well known to those who know what fresh air and outdoor living will accomplish in any climate, and certainly few states can claim more ideal climatic conditions for the treatment of this disease than Kansas. During the biennium 121 persons are known to have sought other climates for cure. Based on a knowledge of actual conditions, it is estimated that only about 10 per cent of cases (either suspected or known) are reported when it is known that they are leaving the state. So that it may be a fairly safe assertion to say that fully 600 persons leave the state annually seeking benefit either through climatic or sanatorium treatment. On the assumption that each of these persons will spend at least \$500, a simple multiplication would indicate that Kansas can well afford to appropriate a considerable sum of money for caring for this class of cases within her own borders, and that, too, under climatic conditions which could hardly be more ideal. In addition, there is a decided advantage in having patients within reach of friends and relatives while undergoing treatment.

OCCUPATIONS. Chart No. 2 shows the occupation groups of cases reported. One group particularly would seem to require comment, namely, the fact that 5 per cent of the total number of cases were persons who were handling food products manufactured and sold for public consumption. Inasmuch as most of these cases pursued their usual occupations for a considerable length of time after development of infection, there seems to be a most thorough need for employers engaged in the manufacture and sale of food products to insist that their employees shall be free from all infection of every character. There is a growing demand for the physical examination of all persons or employees handling food products to insure their freedom from communicable diseases.

PROPHYLACTIC SUPPLIES. The State Board of Health furnishes free of charge, by parcel post, a package of prophylactic supplies to all patients, on request of the attending physician. This package consists of 75 sputum cups, 20 waterproof bags, 200 Japanese paper napkins, 1 cup holder, and 1 information book. In 1914, 281 packages were issued; in 1915, 251 packages.

As has been pointed out by the state registrar, Kansas may well felicitate itself upon its comparatively low tuberculosis rate. Yet with the knowledge contained in these tables as a basis, it may be safely estimated that within our borders fully four to five thousand persons are suffering from the disease in a recognizable stage. To congratulate ourselves on our past efforts in the prevention and control of the disease is not sufficient. The increase in the congestion of population and closer living contact accentuates the need for still further effort. More stringent regulations in the control of cases, greater education of individuals, and liberal appropriations by the state and by respective counties, cities and communities in the care and treatment of existing cases are absolute needs. Not only diminution of economic losses, but the reduction of human life and human suffering still deserves the attention of those in control of our state and local administrative governments as well as private organizations and the public at large.

TYPHOID FEVER.

1914—Number of cases reported	1,684
Number of deaths	339
1915—Number of cases reported	1,298
Number of deaths	195

Assuming that the usual fatality rate in typhoid fever is 10 per cent, the number of deaths in 1914 would lead us to believe that only 48.8 per cent of typhoid fever cases were reported; in 1915 only 66.6 per cent.

On the basis of actual reports, the morbidity rate per hundred thousand population in 1914 was 100.7; fatality, 20.1 per cent. In 1915 the morbidity rate was 77.6; fatality rate, 15 per cent. The counties showing the highest morbidity rate for two successive years were Pawnee, Gray and Kearney. Four counties, namely Grant, Lane, Stanton and Wichita, reported no cases during the biennium. Table No. 14 shows the morbidity and fatality rates by counties and cities of the first class.

COLOR, AGE AND SEX. Table No. 15 shows typhoid fever by color, sex and age groups, with reductions and increases in each group. The ratio of males to females in 1914 was 134 to 100; in 1915 the ratio was 140 to 100. The ratio of negroes to whites in 1914 was 1 to 24.5; in 1915 the ratio was 1 to 24. However, on the basis of actual population, it will be noted the morbidity rate among negroes was considerably higher than among whites. Chart No. 3, comprising the full number of cases of both years, gives a clearly visual impression of the prevalence of the disease by years of age, with approximate curve. While it has always been known that typhoid is a disease of the young, yet the fact that the greatest height of the disease occurred prior to adolescence rather than at early adult life is somewhat surprising and leads one to believe that the statement of the state registrar relative to lack of recognition of typhoid in the early years of childhood is in the main true. The reader is referred to his statement.

OCCURRENCE BY MONTHS. Chart No. 4 shows the incidence of the disease by months. The high seasonal prevalence of typhoid fever during the summer and fall months has long been a well-known feature of the disease. Of late years this recurrence has been attributed to a large extent to the spread of the disease by flies. However, the unusual increase from June to July would seem to demand more explanation. While it is undoubtedly true that the fly is an important factor in the spread of the disease, it must be kept in mind that there must be primary foci from which the infection is spread. When it is appreciated that typhoid is largely a rural disease, that each year during the month of June the state is invaded by from 30,000 to 40,000 harvest hands (and this is true of all the states in the central wheat belt), the entrance of this great number of itinerants suggests itself as a further probable factor in the spread of the disease. This would further seem to be borne out by many individual histories in which the infection originated after the sojourn in rural homes of one of these itinerants, the laborer himself either being ill with the disease, which he had acquired in his wanderings, or a possible chronic typhoid fever carrier. Not only in the

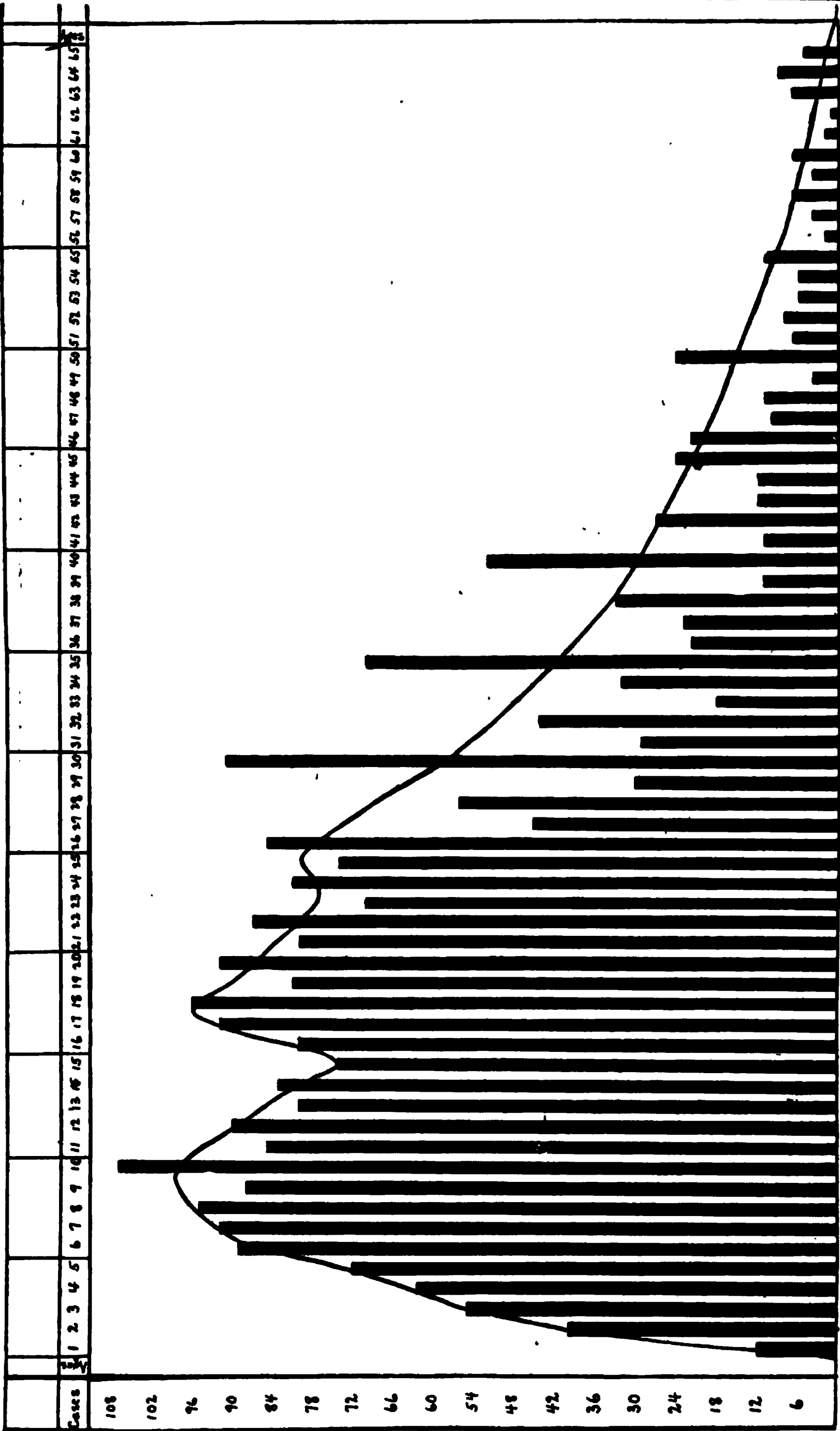


CHART III.
Typhoid morbidity by ages, with approximate curve, years 1914-1915 (2982 cases).

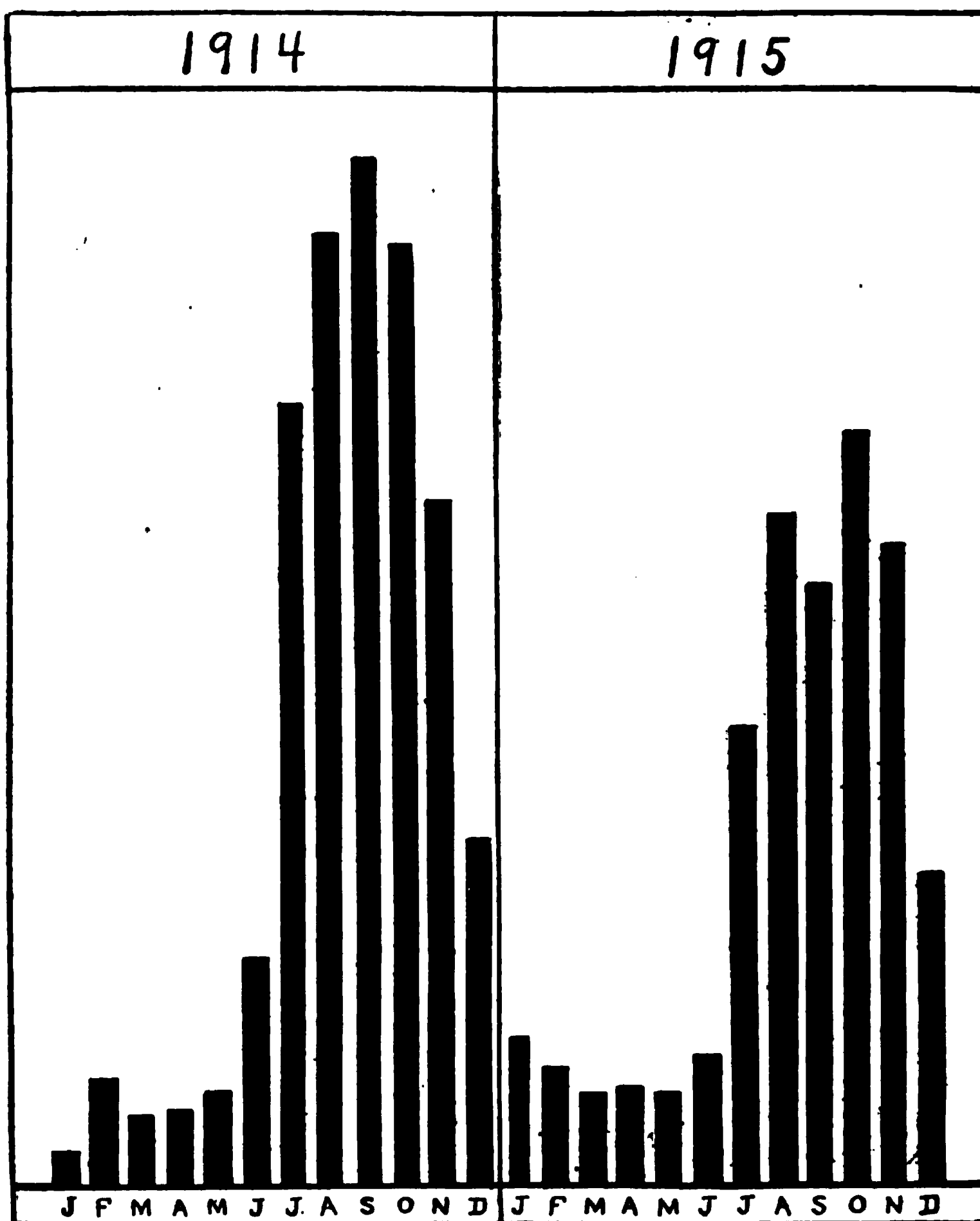


CHART IV.

Typhoid morbidity by months, 1914-1915.

prevention of typhoid, therefore, but in many other communicable diseases, it behooves employers to see that employees coming into their homes, even for but a short time, should be free from all infection.

LOCATION OF CASES. Chart No. 5 will show location of cases occurring. By actual investigation, 40 per cent of cases in sewered cities were known to have been imported from rural communities, and of the remaining 60 per cent the great majority occurred in unsewered portions of these cities. The indictment that typhoid is a rural disease would seem to be clearly borne out by these figures, since the ratio of rural to urban cases is far in excess of the respective populations. The explanation of this factor is almost wholly dependent upon lack of proper sew-

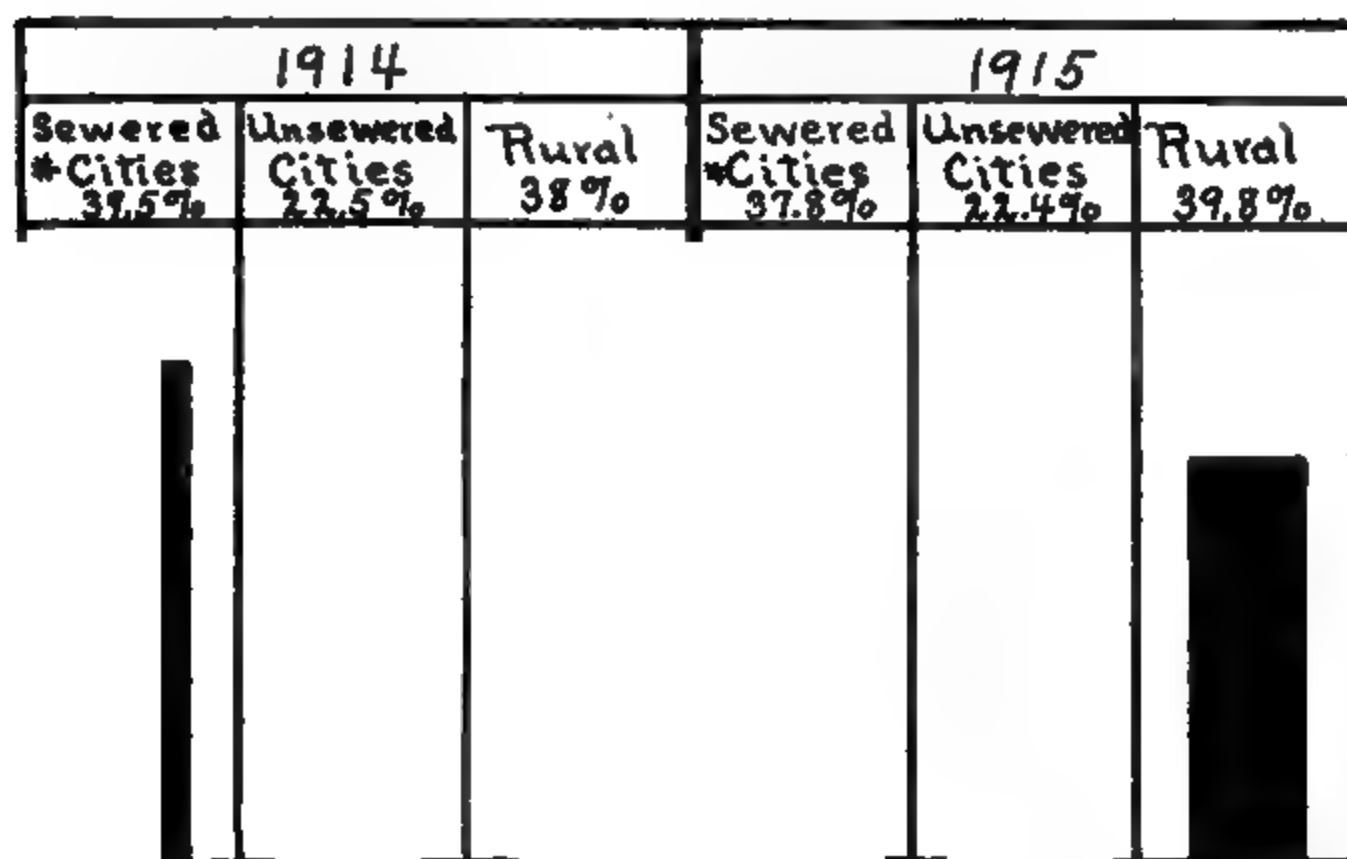


CHART V.

Typhoid morbidity by location in sewered and unsewered cities and rural cases.

age disposal in rural districts. There can not be too much repetition of the fact that human excrement is a most dangerous element in the spread of all diseases, and that so long as communities manifest indifference to this fact they may expect a continued prevalence of typhoid and other infections.

IMPORTED CASES. The number of cases contracting typhoid infection on vacations during the year 1914 was 188, or 11.2 per cent; in 1915 the number was 180, or 10 per cent. This fully accentuates the need of typhoid immunization, especially in those who contemplate traveling. The cases imported from other states in which they were known to have acquired infection are as follows:

State.	1914.	1915.	State.	1914.	1915.
Alabama .....	..	1	Mississippi	1	..
Arizona	1	..	Missouri	18	18
Arkansas	6	6	Nebraska	2	4
California	2	1	New Mexico	1	..
Colorado	6	14	North Dakota	2	..
Florida	1	..	Ohio	4	..
Illinois	3	3	Oklahoma	38	35
Indiana	2	..	Oregon	1	4
Iowa .....	..	1	Texas	4	6
Kentucky	3	2	Wisconsin	1	..
Michigan .....	..	2			

The imported cases in 1914 amounted to 5.6 per cent, and in 1915 to 7.1 per cent.

HOMES INFECTED. The table which follows is in a measure somewhat gratifying, and indicates that where the initial case of typhoid occurs

* 40 per cent cases in sewered cities trace infection to rural districts.

families are becoming more and more impressed with the need of prophylaxis in nursing. It also emphasizes the need of immunization of all other members of a family whenever typhoid infection occurs in the home.

No. cases per family.	Homes infected.	
	1914.	1915.
6 cases in each	1	1
5 cases in each.....	2	2
4 cases in each.....	8	9
3 cases in each.....	25	18
2 cases in each.....	97	74
1 case in each.....	1365	1127
State institution cases	2	21
Totals	1500	1252

OCCUPATIONS. While a study of the following table of occupations may not seem very illuminating, yet a study of each individual group shows clearly the effect of rural occupations and of the occupations which demand travel, and inability of the individual to always choose proper supply of food and drink:

Occupations.	1914.		1915.	
	Cases.	Per cent.	Cases.	Per cent.
None given	18	1.06	26	2.15
Children under school age.....	128	7.6	101	7.78
Children in school (pupils).....	592	35.15	410	31.58
College Students	20	1.2	20	1.54
Handling food products for public use,	36	2.15	30	2.15
Housewives in cities	176	10.45	129	9.9
Railroad employees ..	41	2.43	61	4.7
Rural occupations	463	27.5	337	26.
Migratory (liable to contact by reason of occupation)	71	4.21	75	5.8
Stationary employments	139	8.25	109	8.4

EPIDEMICS. Unusual occurrences of the disease, or small epidemics, occurred at Wichita (fly and milk infection), Winfield (fly infection), Osawatomie (fly and local water, not city water, infection), Burr Oak (infection of wells and cisterns by overflow of near-by stream containing sewage), Cherokee county (evidently fly and contact infection), in the city of Galena (probably infection of city water supply), Manhattan (milk infection), and Strong City (cistern infected by sewage).

ANTI-TYPHOID CAMPAIGNS. An active anti-typhoid campaign was carried on the summer of 1914 in Sumner county by the State Board of Health. Full report of this sanitary and social survey was published in the May, 1915, BULLETIN. For apparent results compare Sumner county rates, 1914 and 1915 (tables 1 and 2). A second active campaign was carried on in Wilson county by the United States Public Health Service in conjunction with the State Board of Health. Report of this has not yet been published by the United States Public Health Service.

With the exception of one or two of the higher-age groups, it may be worthy of comment to note that the greatest reduction occurred in those groups upon which the State Board of Health has exerted its greatest educational influence through the agencies of the various visiting nurse

associations, women's clubs and school children. Certainly these results lend encouragement to a continuation of these efforts. The general decrease in the amount of typhoid fever as a whole is very gratifying, it being the first time in the history of the work of the State Board of Health that there has been any fluctuation from the usual rate. While the gradual reduction in the prevalence of typhoid is more or less nationwide, yet whether the reduction in this state is to remain permanent remains to be seen. Certainly whatever credit may be attributed to seasonal influence, the assumption is justified that the campaign of education, the improvement in public water supplies and in sanitation in all particulars throughout the state has had a profound effect, and it is doubtful, unless unusual conditions prevail, whether the old rate will ever be resumed.

DIPHTHERIA.

1914—Number of cases reported	1,669
Number of deaths	170
1915—Number of cases reported	2,681
Number of deaths	245

In cases of all degrees, with and without the administration of anti-toxin, the average fatality in this disease is estimated at 9.5 per cent. If this basis is accepted, it would seem that we are receiving fully 90 to 95 per cent of the total number of diagnosed cases. Since the public fear of disease largely governs the degree of reporting and isolation of cases, and since diphtheria has long been one of the diseases of which the public stands in greatest fear, it would seem that the above estimate in the percentage of cases reported is nearly correct. The fact remains, however, that many mild cases and carrier cases escape detection. This division has made strenuous effort to educate the public and the medical profession to take advantage of the services of our diagnostic laboratory for bacteriological diagnosis of all throat infections, and there has been a decided increase in the amount of work of the laboratory, undoubtedly leading to an improvement in diagnosis of cases which escape clinical detection. During the summer of 1915 it was observed that a rather unusual number of throat infections were being reported from various parts of the state. Consequently, a general warning was issued early in the fall, by letters to health officers and physicians and through the public press, advising that all cases manifesting suspicious sore throats should undergo immediate isolation. In spite of this warning there was an unusual increase in the disease during the fall of 1915, resulting in an increased reporting of cases and also increased mortality. However, these warnings resulted in a brief duration of the epidemic.

Table No. 17 illustrates the prevalence of the disease by color, sex and age groups. The greatest fatality, of course, occurred in the early years of childhood. The greatest number of cases in any one year occurred at the age of six years. While entire immunity is probably never established in all individuals, yet it will be noted there is a marked decrease in the morbidity after the age of fourteen years, and still more important, fatality decrease after the age of fourteen years, emphasizing the need

of protection of young children against contact with individuals with suspicious sore throats.

It has been asserted by those with experience that the universal use of antitoxin may be expected to reduce fatalities to less than five per cent. The free distribution of antitoxin to indigent cases by the State Board of Health makes it unnecessary for any infected individual to be without this remedy. That this distribution has been the means of saving of many lives is without question. It might be interesting to know to what extent communities are taking advantage of this supply. During the biennium there was distributed one thousand 1000-unit packages, five hundred and forty-nine 3000-unit packages, one thousand and twenty-six 5000-unit packages, and sixty-five 10,000-unit packages. The total value of these amounted to \$3364.60, sixty counties receiving benefits of the free distribution, forty-five counties receiving none. The amount supplied to each county is herewith appended.

County.	Value.	County.	Value.
Allen	\$274.30	Labette	\$150.20
Anderson	2.40	Leavenworth	35.40
Atchison	81.20	Lincoln	16.50
Barber	10.70	Linn	5.30
Barton	1.80	Lyon	74.70
Bourbon	18.20	Marshall	57.60
Brown	16.50	Marion	17.40
Butler	43.30	McPherson	44.00
Cherokee	111.90	Miami	2.80
Clark	3.20	Montgomery	108.00
Cloud	41.30	Morris	23.40
Coffey	10.90	Nemaha	29.30
Comanche	11.30	Neosho	46.20
Cowley	50.20	Osage	93.50
Crawford	162.80	Osborne	6.50
Decatur	1.90	Phillips	2.40
Dickinson	85.90	Pottawatomie	28.10
Doniphan	12.60	Reno	63.00
Elk	3.80	Riley	21.20
Ellis	24.00	Rush	3.10
Ellsworth	40.00	Russell	7.10
Franklin	59.80	Saline	24.50
Geary	21.50	Sedgwick	56.20
Greenwood	4.40	Shawnee	313.30
Harvey	15.60	Stafford	14.60
Jackson	25.80	Sumner	160.90
Jefferson	19.10	Wabaunsee	5.20
Johnson	24.00	Wilson	282.00
Kearny	3.60	Woodson	2.30
Kiowa	2.30	Wyandotte	484.60

While some counties received no part of this antitoxin fund, yet it is certain that these counties do not begrudge their contribution of the expense to the saving of lives in other counties. In fact, by reason either that the disease did not exist within their borders or that the financial status of their population did not necessitate calling upon the state for assistance, they should congratulate themselves. Certainly no one measure, for the small amount appropriated, has accomplished so much good.

This division trusts that future legislatures will not only continue the appropriation, but enlarge its funds to a wider field of usefulness.

SCARLET FEVER.

1914—Number of cases reported.....	866
Number of deaths	35
1915—Number of cases reported	1,512
Number of deaths	35

On account of the extreme mildness of the disease in the past two years there has been difficulty of diagnosis. There still exists the confusion in the minds of many that "scarlet rash," "tonsilitis with rash" or "tonsilitis with erythema" is a mild form of scarlet fever, is not contagious, and therefore requires no reporting or isolation. This, of course, is a misconception on the part of the public, but it has resulted in a lack of medical attention, and, therefore, diagnosis, and makes the disease difficult to control in many communities. In almost every instance investigation of epidemics of scarlet fever proved their origin to have been in a mild unreported case which came under the observation of no physician. Further investigation in localized instances indicated an average fatality of 2 per cent in the acute stages of the disease. On this basis, there was reported in 1914 only 49 per cent of actual cases occurring, and in 1915 only 86 per cent. It will be noted that there was no increase in the number of deaths in 1915 over 1914. Consequently the disease must have maintained a fairly constant rate, and while the improvement in reports from one year to the other is gratifying to this division, yet lack of complete reports emphasizes the need of widespread education to the fact that any sore throat with a rash, under any name, is to be regarded as almost always confirmatory of scarlet fever, and parents and guardians should be thoroughly impressed with the sense of duty which they owe to the public in the protection of the lives and health of others.

COLOR, AGE AND SEX GROUPS. It has long been noted that the negro race seems somewhat immune to scarlet fever. Whether this is in part due to lack of medical attention or difficulty of diagnosis can not be said. Investigation by this division shows, however, that the disease is much more prevalent in negroes than reports would indicate, and emphasizes the need of more careful observation of suspicious anginas in this group. The greatest number of cases of the disease in any one year occurred at the age of seven years. The greatest fatality occurs somewhat later than in diphtheria, it being in the group five to nine years. There is marked increase in immunity after fourteen years. Table No. 18 illustrates the prevalence of the disease by groups.

SMALLPOX.

1914—Number of cases reported	1,964
Number of deaths	7
1915—Number of cases reported	3,010
Number of deaths	8

The inheritance of centuries has been the fear of smallpox. Our state laws governing reporting and isolation of cases are more stringent than in any other disease. As a consequence, reports are perhaps more complete. However, during the past decade the extreme mildness of the disease in many isolated or rural districts, and the consequent lack of medical attention, has led to a failure of diagnosis. This fact, coupled with a far too widespread abandonment of vaccination in the last generation, has resulted in extensive prevalence.

A study of table No. 19 indicates that smallpox displays no favors to any except the vaccinated, the greatest number of cases occurring, of course, in school ages and young adult life, among those groups which are brought into greatest social contact. Some cases, of course, occurred in individuals who claimed to have been vaccinated, but in every instance, it was demonstrated that they had not been successfully vaccinated, that vaccination had been so recent as to have failed to confer immunity, or that vaccination had occurred so many years previous to attack that immunity had been exhausted. No deaths occurred in vaccinated persons.

There is a marked distinction between a scratch on the arm and a *successful* vaccination. Then, too, it must be remembered that vaccine virus is subject to great deterioration through long storage or high temperatures, and that many failures in vaccination occur by this reason. Federal supervision of the manufacturing biological laboratories at present insures a safe source of supply, and while possibly some infections may occur through vaccination, these infections are secondary and through faulty technique and not from the vaccine. A recent investigation by the United States Public Health Service of a number of cases of tetanus which were reported to have occurred as a result of vaccination showed that in every instance the tetanus infection was introduced at a minimum date of twelve days after vaccination and due to improper care or lack of protection of the vaccination site. Those who claim smallpox is preferable to vaccination are persons who have never seen smallpox, for vaccination is preferred to even the mildest type of the disease.

Some health authorities even advocate the abolishment of quarantine in smallpox, arguing that so long as people depend upon this makeshift method of control and prevention they will not seek permanent abolition of the disease by universal vaccination. While there is logic in this argument, it must not be overlooked that, temporarily at least, following abolishment of quarantine, the brunt of morbidity and fatalities will fall upon helpless little ones who are in no wise responsible for the neglect and ignorance of their parents, and it would appear they are entitled to some protection. Yet it is well said that smallpox is an *optional* disease, and the argument that it is unjust to taxpayers as a whole to be obliged to bear the expense of quarantine necessitated because a few persons will not be vaccinated is difficult to refute.

Types reported.	1914.	1915.
Hemorrhagic (severe)	1	4
Confluent (moderately severe)	37	114
Discrete (mild)	1,926	2,892

MEASLES.

1914—Number of cases reported	4,310
Number of deaths	71
1915—Number of cases reported	7,255
Number of deaths	65

The variability in fatality rates in measles is such that it is difficult to estimate the completeness of reports of this disease. It has only been of late years that insistence has been placed on the making of reports, and without a sufficient number of health officers to cover all communities and without close coöperation between schools and health officers, it seems impossible to attain complete reporting. There is no question that the disease was more prevalent in 1915 than in 1914, although the fatality rate was higher in 1914. It is believed that about 40 per cent of cases were reported in 1914 and 60 per cent in 1915.

A study of color, sex and age groups (table No. 20) indicates that the disease has little preference in sex. By years of age it reached its greatest morbidity at the age of seven, while 72.4 per cent of the total occurred in children one to fourteen years. The greatest fatality, of course, occurred in early life, over one-half the deaths in each year being in children under two years of age. In the study of the epidemiology of the disease the question arises as to whether or not measles is a preventable disease. As has been stated above, the fear of disease is the greatest element in its control. So long as parents labor under the belief that every child must have measles, and therefore the earlier the better, and so long as there is an insufficient number of local health officers or lack of co-operation between school authorities and health officers to adequately isolate all cases, the prevalence of the disease can not be controlled. The greatest need, perhaps, is the education of the public to fear the disease. Certainly the annual toll of lives from it makes it a matter of great importance to every community, and especially to parents of young children. If measles can not be prevented, at any rate, by proper care, attacks may be deferred until those periods of life when fatality is lowest.

To school authorities the importance of control is of huge economic value. Of the total number of cases during the biennium 52.6 per cent occurred in school children. Loss of school time by reason of this disease among these children would mean a total of 478 school years. Since the annual school expense per pupil in this state amounts to \$29.75, this would indicate an economic school loss of some \$15,000 a year, and if the number of cases reported amounts to but 50 per cent, this amount would be doubled. It would seem that the useless waste of this amount of school funds every year (and this is only one disease) merits the attention of school authorities and the installation of some means of disease control within the schools.

WHOOPING COUGH.

1914—Number of cases reported	1,664
Number of deaths	183
1915—Number of cases reported	1,772
Number of deaths	188

What has been said about measles is equally applicable to whooping cough. Here again the mildness of the disease in many communities, the lack of medical attention and the lack of fear on the part of the public to the disease hinders the completeness of reporting. The fatality rate of 1914 was 11 per cent; in 1915 it was 10.6 per cent. It is probable that the actual fatality in whooping cough is not higher than 2 to 3 per cent. If this is true, we are receiving reports on but 25 per cent of the total number of cases. The greatest prevalence of the disease in any one year was under one year of age. Of the total number of cases 88.5 per cent occurred under the age of fourteen years. The morbidity is practically nil after the age of twelve years. The fatality rate, of course, is greatest under the age of one year, and is practically nil after the age of five years. The moral of these findings is plain. By deferring the attack of whooping cough in children until after the age of five years, the chances of a fatal ending are reduced to almost nothing, while if the attack can be deferred to the age of twelve years the child will in all probability not have the disease, or, what is more probable, if it does have the disease it will be so mild as to be hardly recognizable. (See table No. 21.)

The reader is referred to the statement of the state registrar for further comment.

PELLAGRA.

1914—Number of cases reported	34
Number of deaths	19
1915—Number of cases reported	42
Number of deaths	22

There seems to be an increasing number of reports of this disease annually. Whether this is due to an actual increase in the number of cases or to a better recognition of the disease it is difficult to state. If the infectiousness of the disease may be dismissed, this increase probably should cause no alarm. At the same time the state has reason to view with considerable concern the increasing number of cases and deaths. Tables 22, 23 and 24 indicate the prevalence of the disease. The fact that the finding of one case in a community usually results in the diagnosis of several more which had been before unsuspected would seem to indicate that there are many more cases than have been reported, and medical attention is directed to a study of the more recent findings relative to symptomatology and diagnosis. Increased knowledge in this regard is bound to bring about an increase in reports.

CANCER.

The increase in cancer mortality, not only in the registration area but in our own state, has been a subject for unusual interest to medical men and to boards of health. Whether this increase is only apparent and is due to better diagnostic methods, as has been argued by some, would seem to demand proof, for the increase seems to be actual. This division undertook to make special inquiry into the history of every case dying from cancer in 1914. Out of 1059 deaths in that year it was possible to secure 770 fairly complete histories. To those who may be interested in

the subject, the study of tables Nos. 25, 26, 27, 28, 29, 30, 31, 32 and 33 may be of interest.

By the special tabulation of cases giving history of heredity or living contact, it has not been intended to place any particular stress upon this feature. To argue the 'dominancy of heredity as a probable factor of cancer is somewhat fatalistic, and it is not intended to leave with those persons with cancerous ancestry the impression that there is no efficacy in either prophylaxis or treatment. In fact, quite a number of histories in that group with hereditary history would indicate that persons who, by reason of heredity, fear the development of cancer have all the more need to avoid every possible source of continued irritation to any of the bodily tissues. As will be noted, 11.3 per cent of the total number of cases gave history of heredity. Of course this was by no means all, for very few persons are able to give a history of morbidity or mortality in their ancestry. The law of chance in large groups of population might include the percentage indicated by the above figures. It must be remembered, too, by those who would argue that curative measures are of no value, that these tables are the histories only of those who died, and does not include the history of hundreds who underwent treatment and recovered. To date, science seems to have been unable to have given a specific explanation as to the cause of cancer, while, with the exception of a very few superficial malignancies, no cure has yet been offered except early surgical intervention. There is great need of education of the public to the fact that an early diagnosis is essential to successful treatment, which is too often deferred for lack of pathological examinations, which patients are often unable to afford. In a large number of superficial malignancies a laboratory examination would establish diagnosis and secure early intervention. The present pathological laboratories at the School of Medicine might well be utilized for this purpose. It would not require a large appropriation to thus enlarge the usefulness of this institution. It is sincerely hoped that our legislature may see fit to set aside sufficient funds for this purpose.

RABIES.

PREVALENCE. This division has undertaken a thorough investigation as to the prevalence of rabies in Kansas during the past five years. A tabulation of this data is to be found in table 34. In making such investigation one is impressed with the general vagueness, not only in the public mind, but also in the minds of medical men and veterinarians, with regard to the prevalence, causation and symptomatology of the disease. There is decided indication for a more general distribution of pamphlets of information on the subject.

The first instance of rabies of which it was possible to obtain a history of occurrence in the state was at Fort Leavenworth some twenty-six years ago. Probably the disease had been introduced into the state prior to that time. As will be noted by table No. 34, there have occurred 269 known instances of rabies in dogs. Distribution of these cases is shown in chart 6. In addition there have occurred a large number of other suspected cases in other animals.

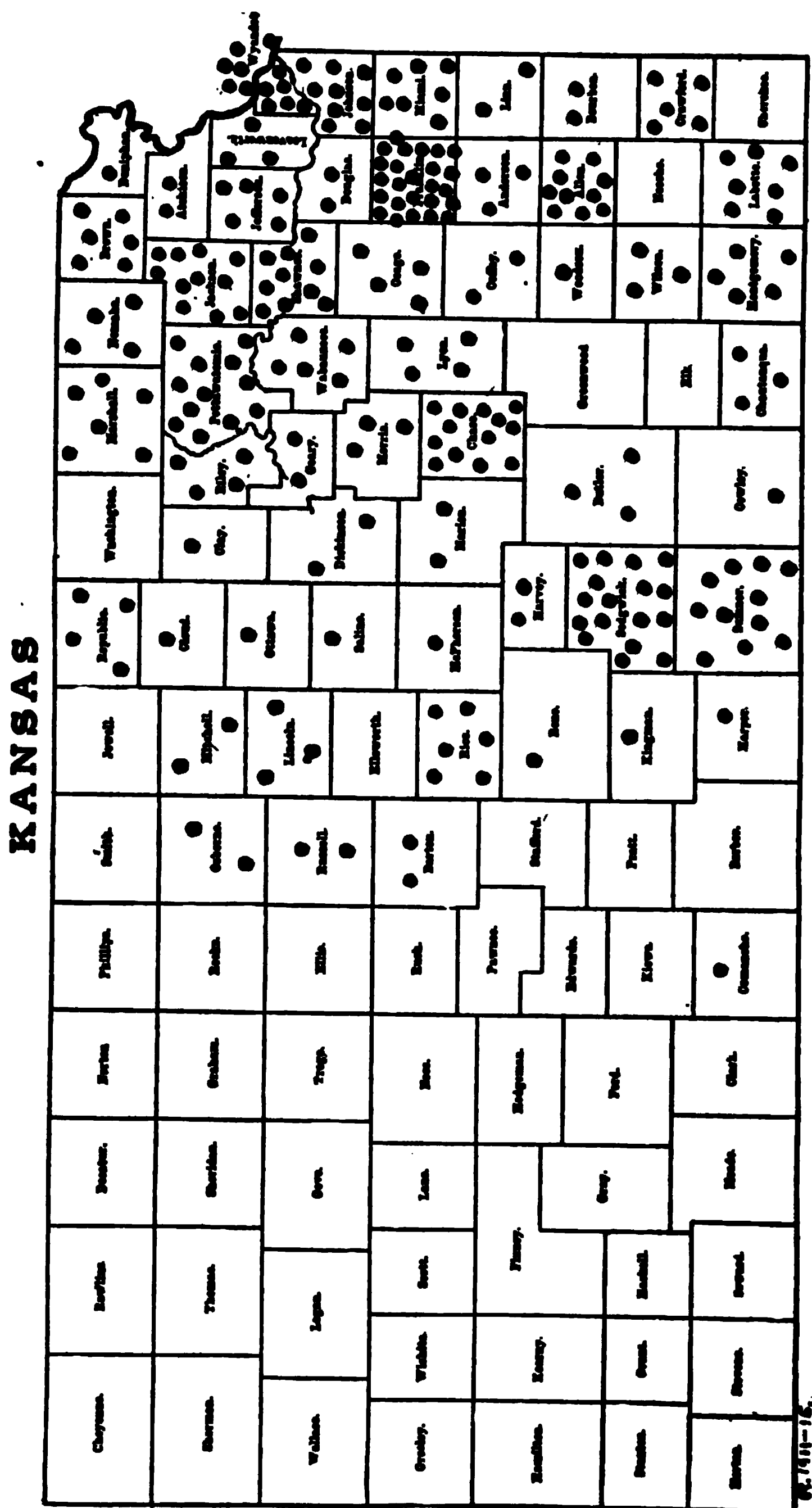


CHART VI.
Distribution of known cases of rabies in Kansas, 1911-1915, inclusive.

BACTERIOLOGICAL. It has been possible to obtain records of 181 laboratory examinations, in 130 of which the Negri bodies have been found. These specimens were examined by the bacteriologist of the State Board of Health and the bacteriologist at the Kansas State Agricultural College Experiment Station. Seven were examined by other laboratories. Table No. 35 gives a tabulation of these results by years and by months. They are perhaps better illustrated in chart No. 7. Contrary to usual belief, it is rather interesting to note that the fewest number of positive cases occur during the summer months. Of the total number of positives 100 occurred in dogs, 12 in cats, 13 in cattle, 2 in hogs, 2 in horses, and 1 in mules.

TREATMENT. During the five-year period, records show 311 persons bitten by known or suspected rabid animals, with 17 deaths, a fatality rate of 5.5 per cent. Chart No. 8 illustrates a record of 150 persons bitten

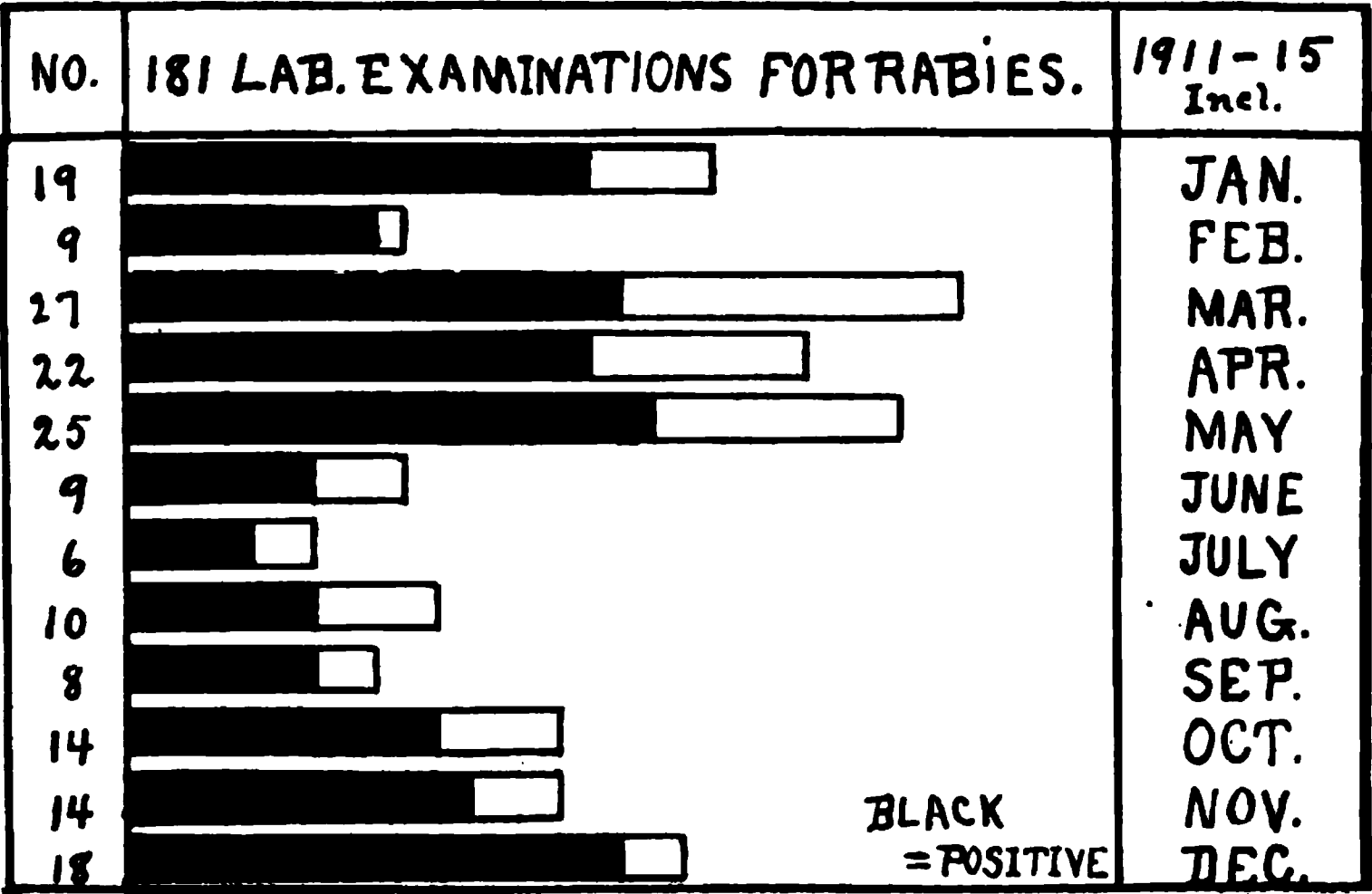


CHART VII.

by known rabid animals, in which the diagnosis was made by two positive methods: First, case diagnosed by brain, with the finding of Negri bodies; second, cases diagnosed by an injection of an emulsion of brain or cord into rabbits. The records of the Chicago Pasteur Institute, kindly furnished by Dr. Antonia Lagorio, superintendent in charge, shows that in the past twenty-five years 223 patients were treated from Kansas; only four in the past three years. However, this reduction in number of treatments in Chicago is due to the increasing number of treatments administered within the borders of the state. Biological houses are now furnishing full courses of antirabic treatments for administration by local physicians. The Hall laboratories of Kansas City report fifty-five such treatments furnished in the past three years. The Bell Memorial Hospital, connected with the Kansas University School of Medicine at Rosedale, has been administering antirabic treatments free of charge, cords

being furnished free of charge to the institution by the United States Hygienic Laboratories, 109 such treatments having been so administered in the past three years. In all it has been found that a total of 290 persons have been given antirabic treatments, with but one fatality.

In an age of enlightenment, it is interesting to know that we have some who still live in the "stone age," i. e., those who believe in the efficacy of the so-called "madstone." It has been possible to obtain histories of twenty persons who resorted to madstones. Of this number four died. Twelve losing faith in the efficacy of the stone, afterward took antirabic treatment and did not develop the disease. In the four remaining cases, brains of animals by which they were bitten were found to be negative by laboratory examination.

A very interesting history has been furnished this division by Dr. G. B. Kierulff, of Melvern, Osage county. On July 3 or 4, 1915, a bull bitch, owned in Melvern, the mother of four pups two months old, developed rabies, origin unknown. On the night of July 3 she slipped her muzzle and attacked some twenty dogs, one horse and one pig. The next morning she

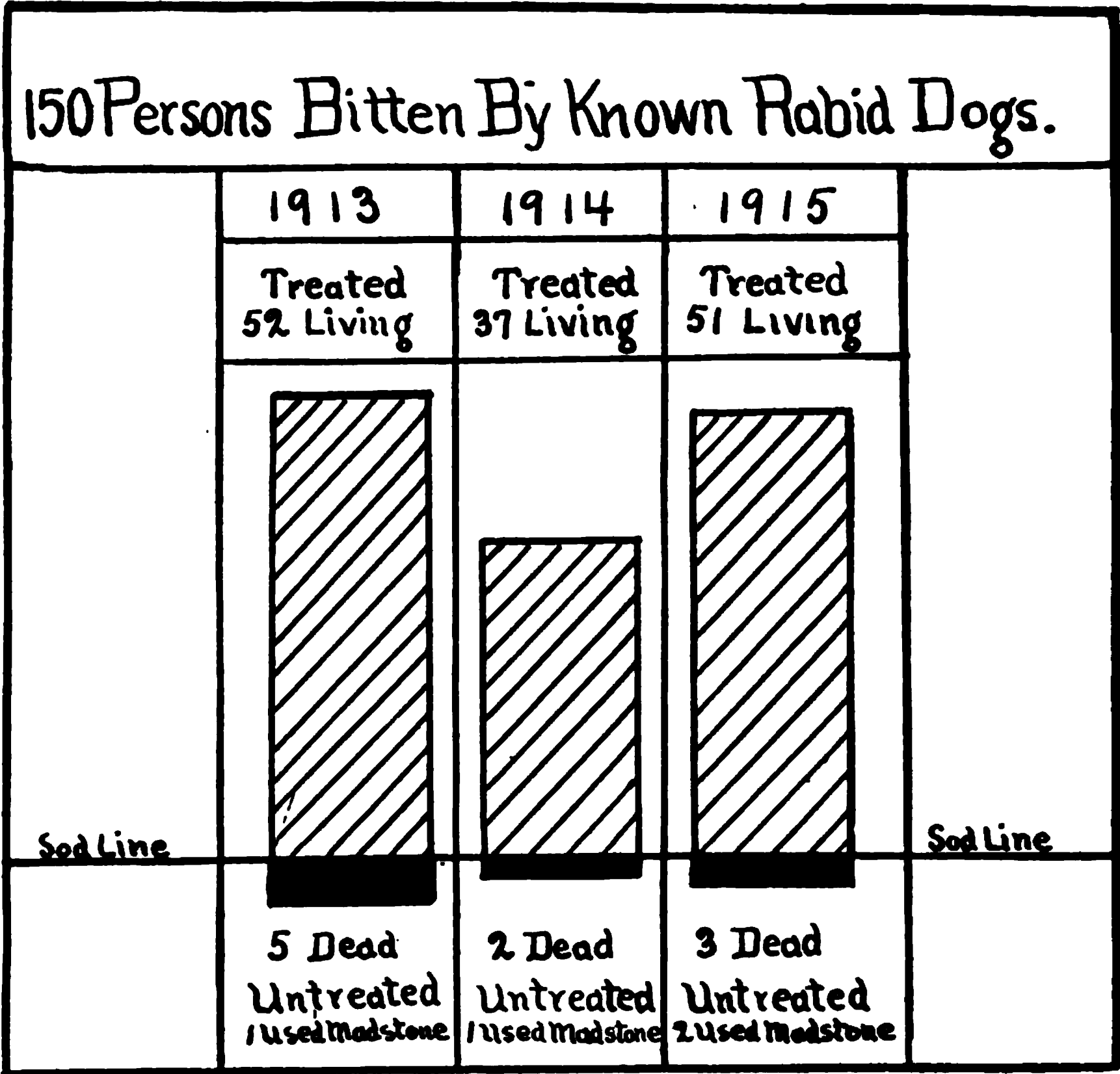


CHART VIII.

killed her own pups, with the exception of one which had been given away the day before. Three dogs, the horse and the pig developed rabies of the paralytic type; others were shot. The pup which was given away was taken from house to house in the neighborhood, was usually quite playful, but sometimes cross. It died twenty-one days after leaving its mother. The persons owning the pup felt positive that it was never bitten. It had bitten thirteen persons, including children and adults. All persons were advised to take antirabic treatment, but twelve resorted to the application of a madstone, paying \$5 each for the application. Twenty-seven days after being bitten by the pup, C. J., nine years old, developed rabies and died four days after the onset. Ten of the remaining eleven persons then received antirabic treatments, one at Bell Memorial Hospital and nine by Doctor Kierulff. The eleventh person, A. T., age forty-six years, developed rabies seventy days after being bitten, and succumbed in five days. One little girl received neither madstone nor Pasteur treatment and developed no symptoms of the disease.

It has not been possible to obtain losses in live stock with any degree of accuracy. Figures indicate a minimum loss of some \$6765. This probably represents about 10 per cent of the total.

It must be kept in mind that the tabulation submitted is inaccurate by reason of its incompleteness, and that undoubtedly many instances of rabies have occurred of which it has not been possible to obtain records. As has been said, the public does not have a full conception of the growing seriousness of the disease. In England, Australia and one or two other countries the disease has been almost or entirely eradicated by universal muzzling of dogs, and leaves no doubt as to the efficacy of this measure. This division believes that there is a most urgent need for a widespread campaign of education in regard to the disease, in the absolute necessity of the destruction of ownerless dogs, and in the thorough enforcement of muzzling orders in localities where the disease is suspected to exist. It is further recommended that the legislature supply the state live-stock sanitary commissioner and the State Board of Health with sufficient funds and legislation to enable them to carry out such protective measures as may be deemed necessary in the control of the disease.

OCCUPATIONAL DISEASES.

While occupational diseases are made notifiable by the morbidity report regulation, the number of reports received has been disappointing. Possibly this is due to misunderstanding on the part of physicians. That such diseases exist in the state is borne out by mortality statistics. It is to be hoped that the coming biennium will show better results.

VENEREAL DISEASES.

There has been a general improvement in the reporting of diseases of this type. This division feels that the securing of such reports is largely one of education. There has been little or no opposition to furnishing such reports, the lack of them being due more to indifference. As was stated in the last biennial report, there is still great need for the furnishing of means to our bacteriological laboratory so that it may be enabled to furnish free complement fixation and Wasserman's in indigent cases.

OTHER DISEASES.

For the prevalence of all other diseases the reader is referred to tables Nos. 1 and 2. It has not been deemed advisable or at all valuable to publish tabulations of them at this time.

WORK OF THE BACTERIOLOGICAL LABORATORY.

The work of this laboratory has become increasingly larger each year. The wisdom of furnishing free laboratory examinations in the diagnosis of diphtheria, typhoid, epidemic cerebrospinal meningitis, tuberculosis, rabies and venereal diseases is apparent to all agencies seeking to control the prevalence of these diseases. What this laboratory has been able to return to the citizens of the state of Kansas during the years 1914 and 1915, in actual numbers and values, in laboratory diagnosis and facilities is to be found in table No. 36. The entire expenditures of the laboratory were \$1700 for 1914, and \$1950 for 1915—a total of \$3650. The estimated values of the work performed is based upon the minimum scale of prices charged by commercial laboratories for the several examinations, as follows:

Examination of sputum	\$1
Examination of diphtheria specimens	2
Widal reaction	2
Examination of suspected gonorrhoeal smears	1
Examination of brains and cords for suspected rabies	3

According to this table it would seem that, on a purely commercial basis, the laboratory had been a means of saving directly to the citizens of the state the approximate sum of \$10,000. It is difficult to say what has been saved in human life and human suffering in the prevention of further infections and the control of disease. Certainly the table would indicate that future legislatures are justified in increasing the facilities and appropriations of the laboratory so that still further returns may be rendered possible.

CONCLUSION.

The division wishes to acknowledge its grateful appreciation for the assistance of some 3000 physicians in the state who have so kindly co-operated with us in the reporting and isolation of communicable diseases. Practically every physician believes that the prevention of unnecessary illness is a duty which the medical profession owes to society, and, acting in this belief, is always found ready and willing to coöperate with the work of this division and with local health officers.

The division further expresses its appreciation to the local health officers over the state who have loyally supported us. All of these health officers are underpaid, and the most of them are earning many times the small salaries paid them. It is to be hoped that the time is not far distant when the public will awaken to the realization that the cost of public-health service is not an expense, but an investment which returns unbelievable dividends. Public-health workers everywhere sincerely look forward to the coming of the "all-time health officer"—a thoroughly trained man who will be obliged to devote his whole time to matters of

public health and sanitation, and who will receive adequate compensation in return for the services rendered. The local health officer is the scout of the army of public-health workers, and upon him rests the duty of the prompt detection and isolation of all cases or suspected cases of communicable disease and the investigation of their causes. If he performs this duty properly he must not be hampered in his duty to the public by either lack of funds or support by the public, or by the necessity of being obliged to perform the details of private business. Many eastern states are already adopting the plan of full-time health officers in every county and every city of sufficient size and population to justify the need. It is to be hoped that Kansas, progressive as it has always been in other matters, will not be one to lag behind, and that a similar plan will shortly be adopted not only by local units but by the state as a whole.

APPENDIX TO PART II.

STATISTICAL TABLES.

(319)

TABLE No. 1. Notifiable disease reports, 1914.

COUNTIES.	Anthrax.....	Chickenpox.....	Diphtheria.....	Dysentery.....	German measles.....	Malaria.....	Measles.....	Meningitis.....	Mumps.....
Allen.....		89	66				267		165
Anderson.....			4				13		
Atchison, <i>except</i>			2				1		1
Atchison city.....		2	2				8	1	
Barber.....									
Barton.....		6	14				4	1	2
Bourbon, <i>except</i>		1	15				2		3
Fort Scott.....		25	8				5		
Brown.....		8	6				6	1	3
Butler.....		9	25	7		6	72		52
Chase.....		2	3				13	1	
Chautauqua.....		15	23	1			5	1	92
Cherokee.....		3	50				181		
Cheyenne.....									
Clark.....			4				15		
Clay.....		22	8				12		22
Cloud.....		34	10		1		28		57
Coffey.....		1	17				4		6
Comanche.....			75				15		
Cowley.....		15	75				42		
Crawford, <i>except</i>		2	103				42	1	3
Pittsburg.....		15	78				89	4	5
Decatur.....			1				13		
Dickinson.....			8				15		
Doniphan.....			8				3		
Douglas.....		9	21		1	1	205	1	49
Edwards.....							2	1	
Elk.....			13				8		2
Ellis.....			14						
Ellsworth.....		17	15				2		
Finney.....			5						
Ford.....		2	8				7	1	3
Franklin.....		8	29				33		2
Geary.....			5				152		
Gove.....		18							2
Graham.....		8					3		
Grant.....							1		
Gray.....			1		1		8	1	
Greeley.....									
Greenwood.....		12	13				180		23
Hamilton.....									
Harper.....		11	10				50	1	9
Harvey.....		3	12				9	1	
Haskell.....									1
Hodgeman.....									
Jackson.....		17	7				10		7
Jefferson.....		2	11				11		
Jewell.....			8				8		
Johnson.....			8				32		2
Kearny.....									1
Kingman.....			1				102		
Kiowa.....			8						
Labette, <i>except</i>		4	70				82		
Parsons.....		18	76				36		25
Lane.....									
Leavenworth, <i>except</i>		19	4				23		9
Leavenworth city.....		41	65		23		253	1	
Lincoln.....			7				39		
Linn.....		8	13				23		
Logan.....									
Lyon.....		5	13		1		13		11
Marion.....		3	4				2	1	4
Marshall.....			4				5		35
McPherson.....		1	8				23		2
Meade.....		3	1				5		4
Miami.....		2	6			1	42		1

TABLE No. 1—CONTINUED.

COUNTIES.	Anthrax.....	Chickenpox.....	Diphtheria.....	Dysentery.....	German measles.....	Malaria.....	Measles.....	Meningitis.....	Mumps.....
Mitchell.....			7				11		
Montgomery, <i>except</i>		8	40		1	1	273		
Coffeyville.....		2	19				313		39
Morris.....			1				19		
Morton.....		1							
Nemaha.....		12	5				10	1	4
Neosho.....		21	40				110		136
Ness.....			2						2
Norton.....		1					2	1	1
Osage.....		14	41				11		8
Osborne.....									
Ottawa.....		7					15	1	13
Pawnee.....							3		1
Phillips.....			1				1	1	
Pottawatomie.....		4	4				6		
Pratt.....			8				17		
Rawlins.....			1						
Reno, <i>except</i>									
Hutchinson.....		30	41	1			7		3
Republic.....		6	1				26	1	
Rice.....		1	2				22		1
Riley.....	1	16	4		1		20		356
Rooks.....									
Rush.....			5				13		2
Russell.....									
Saline.....									
Scott.....									
Sedgwick, <i>except</i>		20	1		1		24		7
Wichita.....		94	18				297	1	
Seward.....			19						
Shawnee, <i>except</i>		7	19				9		
Topeka.....		248	113				30	1	
Sheridan.....									
Sherman.....		1					44		3
Smith.....								1	7
Stafford.....			2						
Stanton.....									
Stevens.....			1						
Sumner.....		19	45		1		586	1	31
Thomas.....		6	9						1
Trego.....			2						
Wabaunsee.....			1				4		
Wallace.....									
Washington.....			2		1		4	3	
Wichita.....									
Wilson.....		18	52				24		11
Woodson.....		3	11				1		4
Wyandotte, <i>except</i>		4	6				2		
Kansas City.....		53	154				82	3	8
State institutions.....									27
Total.....	1	981	1,669	9	32	9	4,310	33	1,262

TABLE No. 1—CONTINUED.

COUNTIES.	Ophthalmia Neonatorum.	Pneumonia (acute lobar).....	Polio-myelitis (acute infectious).....	Rabies.....	Scarlet fever.....	Smallpox.....	Tetanus.....	Trachoma.....
Allen.....			1		3	84		
Anderson.....					3	12	2	
Atchison, <i>except</i>					5	2		
Atchison city.....					30			
Barber.....			4					
Barton.....		4			15	55		
Bourbon, <i>except</i>		1			1	1		
Fort Scott.....		5	1		7			
Brown.....					8	23		
Butler.....		6	1		8	62	1	1
Chase.....			2		5	1		
Chautauqua.....					12	7		
Cherokee.....		3			10	46		
Cheyenne.....		4			1			
Clark.....					9	7		
Clay.....		1			41	56		
Cloud.....		2			32	117		
Coffey.....					10	2		
Comanche.....						19		
Cowley.....			1		7	15		
Crawford, <i>except</i>					7	50		
Pittsburg.....					27	90		
Decatur.....		2	2					
Dickinson.....					2	13		
Doniphan.....		2			2			
Douglas.....	1	2	1		11	5		
Edwards.....					3			
Elk.....					18	2		
Ellis.....								
Ellsworth.....			1		1	5		
Finney.....						59		
Ford.....		3			13	7		
Franklin.....			1		11	28		
Geary.....		10			3			
Gove.....								
Graham.....			1		3	4		
Grant.....								
Gray.....					7			
Greeley.....								
Greenwood.....		3			26	5		
Hamilton.....								
Harper.....		2			4	96		
Harvey.....						5		
Haskell.....						1		
Hodgeman.....								
Jackson.....	1		2		16			116
Jefferson.....					11	5		
Jewell.....						43		
Johnson.....		1				7		
Kearny.....					1			
Kingman.....					1	20	1	
Kiowa.....						4		
Labette, <i>except</i>					8	22		
Parsons.....					17	13		
Lane.....					2	11		
Leavenworth, <i>except</i>		2	1		1	6		
Leavenworth city.....	1	4			11	2		
Lincoln.....						2		
Linn.....					1	9		
Logan.....								
Lyon.....		1	1		6	18		
Marion.....			1		13	8		
Marshall.....		1			7	7		
McPherson.....					7	4		
Meade.....		1			1	2		
Miami.....		1		1	17	16		

TABLE No. 1—CONTINUED.

COUNTIES.	Ophthalmia Neonatorum.	Pneumonia (acute lobar).....	Polomyelitis (acute infectious).....	Rabies.....	Scarlet fever.....	Smallpox.....	Tetanus.....	Trachoma.....
Mitchell.....					6	63		
Montgomery, except Conleyville.....		8	1		15 10	62 27		
Morris.....			1		2	5		
Morton.....					1			
Nemaha.....					30			
Neosho.....					3	56		
Ness.....					4	4		
Norton.....					4			
Osage.....					5			
Osborne.....		4						
Ottawa.....		1			20	33		
Pawnee.....					3	34		
Phillips.....			2		4	12		
Pottawatomie.....		1			17	1		
Pratt.....					7	71		
Rawlins.....					1	4		
Reno, except Hutchinson.....		1	1		1	1	1	
Republic.....		1	1		2	18		
Rice.....						27		
Riley.....		20	1		11	4		
Rooks.....					11			
Rush.....						1		
Russell.....								
Saline.....						1		
Scott.....						16		
Sedgwick, except Wichita.....	1		4		21 43	18 82		28
Seward.....								
Shawnee, except Topeka.....					9 30	36 60		
Sheridan.....								
Sherman.....						17		
Smith.....						9		
Stafford.....					1	5		
Stanton.....					3			
Stevens.....								
Sumner.....		24	2		10	44		
Thomas.....						18		
Trego.....					13			
Wabaunsee.....								
Wallace.....						5		
Washington.....					2	4		
Wichita.....								
Wilson.....		1	2		10	10		
Woodson.....					6	14		
Wyandotte, except Kansas City.....		1			3 41	8 114		
State institutions.....								
Total.....	4	118	36	1	866	1,964	5	145

TABLE No. 1—CONTINUED.

COUNTIES.	Tuberculosis (all forms).....	Typhoid fever.....	Whooping cough.....	Veneral diseases.....	Cancer.....	Pellagra.....	Other diseases.....	Total number reported....
Allen.....	28	35	31					719
Anderson.....	5	8	8				2	52
Atchison, <i>except</i>	2							13
Atchison city.....	16	13				1		73
Barber.....	2	4						10
Barton.....	8	31	12			1		153
Bourbon, <i>except</i>	10	11	4					49
Fort Scott.....	10	21	76		3			161
Brown.....	11	24	8					93
Butler.....	21	38	152		8	2	3	474
Chase.....	18	37	18				1	96
Chautauqua.....	2	19	26					203
Cherokee.....	36	22	8		1	8	1	369
Cheyenne.....		12					1	18
Clark.....	3	10	2					50
Clay.....	10	14	24		1			211
Cloud.....	4	9	1				1	296
Coffey.....	11	4		1				56
Comanche.....	8	8	2				3	50
Cowley.....	24	108	2			3		292
Crawford, <i>except</i>	9	47	13			1		275
Pittsburg.....	7	9	26					345
Decatur.....	3	6	2					29
Dickinson.....	11	5						44
Doniphan.....	14	29					3	61
Douglas.....	15	19	29					391
Edwards.....	3	4	2					15
Elk.....	3	12	1					59
Ellis.....		11						25
Ellsworth.....	8	12	6					6
Finney.....	3	8						75
Ford.....	14	33	2					88
Franklin.....	8	52	2					169
Geary.....	10	4	7		1			192
Gove.....		4	4					28
Graham.....	2		9					30
Grant.....								1
Gray.....	2	13	7					40
Greeley.....		1						1
Greenwood.....	9	33	30			1		334
Hamilton.....								
Harper.....	8	14	75					280
Harvey.....	4	32	17			1		84
Haskell.....								2
Hodgeman.....		6	3					9
Jackson.....	9	18	2					205
Jefferson.....	3	16	1					60
Jewell.....	3	3	30		1			91
Johnson.....	10	8	3					66
Kearny.....		8	13					23
Kingman.....	9	6	17					157
Kiowa.....		4						16
Labette, <i>except</i>	9	25	6			1		227
Parsons.....	19	23	15					242
Lane.....	2							15
Leavenworth, <i>except</i>	6	17	20			1		109
Leavenworth city.....	28	24	47				1	501
Lincoln.....	2	10	8					68
Linn.....	11	6	3					74
Logan.....	2	1						3
Lyon.....	14	26	35			1		144
Marion.....	20	8	75					139
Marshall.....	14	22	1					96
McPherson.....	14	17	16					92
Meade.....		9	19	2				47
Miami.....	12	8	4					111

TABLE No. 1—CONCLUDED.

COUNTIES.	Tuberculosis (all forms).....	Typhoid fever.....	Whooping cough.....	Veneral diseases.....	Cancer.....	Pellagra.....	Other diseases.....	Total number reported....
Mitchell.....	5	4	1					97
Montgomery, <i>except</i>	26	42	17				1	496
Coffeyville.....	19	21	14			2		470
Morris.....	10	3	6					47
Morton.....		1	6					9
Nemaha.....	5	7	5				1	80
Neosho.....	13	35	24					438
Ness.....		2						14
Norton.....	2	13	16					40
Osage.....	5	9	23					111
Osborne.....		3						7
Ottawa.....	7	17	53	3				170
Pawnee.....	3	31	8					83
Phillips.....	3	1						25
Pottawatomie.....	4	1						38
Pratt.....	2	10						115
Rawlins.....		5						11
Reno, <i>except</i>	2	3						9
Hutchinson.....	19	51	28					235
Republic.....	4	10	12					82
Rice.....	12	20						85
Riley.....	11	26	100				5	576
Rooks.....	2	4						17
Rush.....		5						26
Russell.....	5			1				6
Saline.....	4	7	28		1			41
Scott.....		2	2					20
Sedgwick, <i>except</i>	14	11	52				1	170
Wichita.....	47	64	143			5	5	832
Seward.....	6	5	1					12
Shawnee, <i>except</i>	21	10	5					116
Topeka.....	46	21	4					553
Sheridan.....								
Sherman.....	2		8					75
Smith.....	3	4	10					34
Stafford.....	4	8				2		17
Stanton.....								3
Stevens.....		3						4
Sumner.....	25	79	181		9	1		1,008
Thomas.....		12	14					60
Trego.....	1	1						17
Wabaunsee.....	4	5						14
Wallace.....		1						6
Washington.....	9	15						40
Wichita.....	1							1
Wilson.....	13	52	2			1	2	198
Woodson.....	7	13	7				1	67
Wyandotte, <i>except</i>	5	3						31
Kansas City.....	143	57	30			1		687
State institutions.....	20				4	2	3	56
Total.....	1,073	1,684	1,664	7	29	34	35	15,971

TABLE No. 2. Notifiable disease reports, 1915.

COUNTIES.	Actinomyces	Anthrax	Cholera	Diphtheria	Dysentery	German measles	Malaria	Measles	Menigitis
Allen			16	128			12	10	1
Anderson			5	5			11	3	
Atchison, except				4			11	3	
Atchison city			19	24		1	2	5	
Barber			16	41				5	
Barton			24	39	1	1	3	14	
Bourbon, except			4	9			18	26	
Fort Scott			5	23			1	294	
Brown			7	16				25	1
Butler			59	41	8		9	393	2
Chase				3			9	23	
Chautauqua			3	26			6	2	
Cherokee			8	88				17	
Cheyenne				2				24	
Clark			4	1				5	
Clay			2	3				3	
Cloud			6	18			8	74	
Coffey			9	9		1	3	23	
Comanche				2		2			
Cowley			70	25				226	1
Crawford, except			12	149			4	60	3
Pittsburg			10	45				41	
Decatur				1				10	
Dickinson			9	18				4	
Doniphan			10	16			2	74	1
Douglas			44	38				29	
Edwards				3					
Elk			1	28			2	6	1
Ellis				2				22	
Ellsworth			30	50			2	37	
Finney				3				3	
Ford			1	3			1	3	
Franklin				19			2	6	
Geary			6	18				5	1
Gove			1					3	
Graham				1				6	
Grant									
Gray			6	6					
Greeley									
Greenwood			2	19		1		21	
Hamilton									
Harper			6	7			2	4	
Harvey			7	9				40	
Haskell									
Hodgeman			3				2	6	
Jackson			24	9		1		32	2
Jefferson			4	22				10	
Jewell								208	
Johnson			16	26			5	12	1
Kearny								3	
Kingman			5	22				6	
Kiowa			1	9				9	
Labette, except	1			38				9	
Parsons	1		6	36				146	
Lane				12					
Leavenworth, except			6	16			2	3	1
Leavenworth city			36	22			4	6	
Lincoln				2				123	
Linn			8	34				53	
Logan									
Lyon			36	48			4	433	
Marion			6	34				126	1
Marshall			3	12		2		20	2
McPherson			2	15		4	4	8	1
Meade			31					31	
Miami			7	2				9	1

TABLE No. 2—CONTINUED.

COUNTIES.	Actinomycosis.....	Anthrax.....	Chickenpox.....	Diphtheria.....	Dysentery.....	German measles.....	Malaria.....	Measles.....	Meningitis.....
Mitchell.....			12	8				256	
Montgomery, <i>except</i>			40	87	1		9	7	
Coffeyville.....			17	56			3	8	1
Morris.....			3	12				14	
Morton.....				10					
Nemaha.....			5	2		1	12	19	
Neosho.....			36	46			11	49	
Ness.....				1				1	
Norton.....				10				41	
Osage.....			30	10			1	75	1
Osborne.....			4	13				121	
Ottawa.....			9	2				209	
Pawnee.....			4	3				7	
Phillips.....			10	96		1		91	
Pottawatomie.....			7	2				3	
Pratt.....				28				3	2
Rawlins.....			4	1				17	
Reno, <i>except</i>			8	8				24	1
Hutchinson.....			35	39		3	4	168	1
Republic.....			6	1				43	
Rice.....			6	10		2		58	
Riley.....			62	19			3	14	
Rooks.....			3	7					
Rush.....			4					18	
Russell.....			4	8				128	
Saline.....			39	19				356	
Scott.....								3	
Sedgwick, <i>except</i>			12	19		4	2	177	
Wichita.....		1	97	48			3	717	
Seward.....				3	1			11	
Shawnee, <i>except</i>			9	22			2	54	
Topeka.....			88	148			1	639	1
Sheridan.....				1				6	
Sherman.....			2					10	
Smith.....			9	12				300	
Stafford.....			3	4					
Stanton.....									
Stevens.....									
Sumner.....			103	48			14	315	4
Thomas.....			2	15				121	
Trego.....				8				17	
Wabaunsee.....			9	6				4	
Wallace.....			4	2			2		
Washington.....			4					5	
Wichita.....								5	
Wilson.....			13	112				86	
Woodson.....			1	12				8	
Wyandotte, <i>except</i>			1	34					
Kansas City.....			76	343	2		7	240	7
State Institutions.....									
Total.....	2	1	1,377	2,681	8	24	203	7,255	38

TABLE No. 2—CONTINUED.

COUNTIES.	Mumps.....	Ophthalmia Neonatorum.	Pneumonia (acute lobar).....	Polio-myelitis (acute infectious).....	Rabies.....	Scarlet fever.....	Septic sore throat.....	Smallpox.....	Tetanus.....
Allen.....	2		7			27		7	
Anderson.....			3	1		18		67	
Atchison, <i>except</i>			8			8		4	
Atchison city.....	54		4			35		15	
Barber.....				1				12	
Barton.....	57		13	1		14		28	2
Bourbon, <i>except</i>	1		12			12		2	
Fort Scott.....			8	2		3		2	
Brown.....	1		11			3		17	
Butler.....	13		35			7		101	
Chase.....	1		10			6		45	
Chautauqua.....						12		2	1
Cherokee.....	1		1	1		20		129	2
Cheyenne.....						14		3	
Clark.....				1		5		6	
Clay.....	25		3			17		84	
Cloud.....	176	1	7			19		1	
Coffey.....			2	1		12		6	
Comanche.....						12		110	
Cowley.....	2		7			18		12	
Crawford, <i>except</i>		1	11			8		68	1
Pittsburg.....	1					10		50	
Decatur.....	2		7			4		2	
Dickinson.....	1					4		15	
Doniphan.....	1		24			40		21	
Douglas.....	68		2	1		16	2	14	1
Edwards.....			1			7		3	
Elk.....	1		7			7		3	
Ellis.....			4	1		7		5	
Ellsworth.....	18		1			16		1	
Finney.....			8					1	
Ford.....			2	2		11		9	
Franklin.....	1	1	4			22		16	
Geary.....	1	1	6	1		11		3	
Gove.....			1			16		117	
Graham.....			3			27			
Grant.....									
Gray.....	1		17			6		11	
Greeley.....									
Greenwood.....	3		8			39		25	
Hamilton.....						1			
Harper.....						16		174	
Harvey.....						9		3	
Haskell.....									
Hodgeman.....	10		3			2			
Jackson.....	7		2			20			
Jefferson.....	5					40		23	1
Jewell.....	5		1					6	
Johnson.....	3		12	2		9		4	
Kearny.....			2			4		1	
Kingman.....	1					30		91	
Kiowa.....	6							1	
Labette, <i>except</i>			1	1		7		93	
Parsons.....	61					19		5	
Lane.....						1		39	
Leavenworth, <i>except</i>	8			1		19		2	
Leavenworth city.....			16			55	2	46	1
Lincoln.....	42		2	2		1			
Linn.....	2		6	1		6		15	
Logan.....						9			
Lyon.....	16		1	2		12		3	
Marion.....	39		4	2		11		43	
Marshall.....	10		4			11		13	
McPherson.....	4		4			15		1	
Meade.....	26					2		16	
Miami.....	6		2			3		1	

TABLE No. 2—CONCLUDED.

COUNTIES.	Mumps	Ophthalmia Neonatorum	Pneumonia (acute lobar)	Polio-myelitis (acute infectious)	Rabies	Scarlet fever	Septic sore throat	Smallpox	Tetanus
Mitchell.....	33					6			
Montgomery, <i>except</i>	12					32		44	1
Coffeyville.....		1	23					6	
Morris.....	3		3	1		4		18	1
Morton.....								37	
Nemaha.....	10		2	1		5		14	
Neosho.....	2	1	8			42		52	2
Ness.....	5					4			
Norton.....	12		9			1	19		
Osage.....	4				2	4		24	1
Osborne.....			11			7		9	
Ottawa.....	32		11			9			
Pawnee.....	7		2			8		45	
Phillips.....	32	1	3			12		38	1
Pottawatomie.....	2		8			16		1	
Pratt.....				1		14		4	
Rawlins.....	8		3			15		5	
Reno, <i>except</i>			1	1		2		12	1
Hutchinson.....	204			3		10		41	
Republic.....	12		2			21		51	
Rice.....			5			7		36	
Riley.....	50		14			9	3	20	
Rooks.....						7		118	
Rush.....	7		6					5	
Russell.....			1			26		8	
Saline.....	17		11	1	1	8	3	8	
Scott.....								6	
Sedgwick, <i>except</i>	5			1		26		36	2
Wichita.....	136		55			76	2	249	
Seward.....	4					16		1	
Shawnee, <i>except</i>	14					5		4	1
Topeka.....	5		6	1		39		36	
Sheridan.....	2		4			14			
Sherman.....				1		2		2	
Smith.....	10					8		18	
Stafford.....			2			9		13	
Stanton.....									
Stevens.....						18		41	
Sumner.....	49	1	48			16		186	1
Thomas.....	6		1			1			
Trego.....	78		4			11			
Wabaunsee.....						6		4	
Wallace.....	2							3	
Washington.....						6		19	
Wichita.....						2			
Willson.....	13		11			45		11	
Woodson.....	2					9			
Wyandotte, <i>except</i>	2		4			11		38	
Kansas City.....	21	1	16	3		72		150	2
State institutions.....			29			45			
Total.....	1,483	9	595	38	3	1,512	31	3,010	22

TABLE No. 2—CONTINUED.

COUNTIES.	Trachoma.....	Tuberculosis (all forms).....	Typhoid fever.....	Whooping cough.....	Occupational diseases.....	Veneral diseases.....	Cancer.....	Pellagra.....	Other diseases.....	Total number reported...
Allen.....	1	84	18	51			2	4		320
Anderson.....		7	8	19		1			1	148
Atchison, <i>except</i>		2	2							42
Atchison city.....		7	15	11						192
Barber.....		2	4							81
Barton.....		4	23	29				1	2	256
Bourbon, <i>except</i>		4	14	1			1			104
Fort Scott.....		11	20	7		3				379
Brown.....		17	8	21			1			123
Butler.....	2	16	24	14		1	6	4	1	731
Chase.....	2	6	3	2		2	3			115
Chautauqua.....		4	11	18		1				36
Cherokee.....		54	50	21		2	4	8		407
Cheyenne.....		1		5						49
Clark.....			2							24
Clay.....		17	7	10			1			172
Cloud.....	1	10	12	8						341
Coffey.....		8	8	18						95
Comanche.....		1	4							131
Cowley.....	2	25	23	61					3	475
Crawford, <i>except</i>		16	41	33		1	5	1		413
Pittsburg.....		8	3	19					1	133
Decatur.....		1	5	1						33
Dickinson.....		4	9	6		12		1		33
Doniphan.....		19	6	4		3			1	222
Douglas.....	230	54	12	44		4		1	4	564
Edwards.....		4	5							23
Elk.....	3	5	6	6						76
Ellis.....		3	2						2	43
Ellsworth.....		7	8	57					1	230
Finney.....		4	7							26
Ford.....		8	21	11		4				76
Franklin.....		16	30	8		6	1			130
Geary.....	1	10		2					1	62
Gove.....			3	3						144
Graham.....	2	4	4	4						51
Grant.....										
Gray.....			12	20						79
Greeley.....										
Greenwood.....	2	10	25	2			1			153
Hamilton.....			1							2
Harper.....		4	10			2				225
Harvey.....		18	17	14		1				113
Haskell.....			1					1		2
Hodgeman.....		2	2				2			32
Jackson.....	112	6	3	16						234
Jefferson.....		8		2						115
Jewell.....		3	33	14						270
Johnson.....		7	11	2		1			1	111
Kearny.....		3	6	1						20
Kingman.....	2	14	17	19				1		203
Kiowa.....		2	2	8		2	1	1		42
Labette, <i>except</i>	1	6	23	3			1			134
Parsons.....		26	10	23		10				393
Lane.....		3								55
Leavenworth, <i>except</i>		6	7	3						74
Leavenworth city.....		32	14	8			7		6	255
Lincoln.....		5	10				1			133
Linn.....		11	11	9		1	3	1		161
Logan.....		1	1							11
Lyon.....		9	16	3		5	1	1		590
Marion.....	1	13	19	56						355
Marshall.....	2	9	10	15						113
McPherson.....		6	4	20			1			39
Meade.....		2	2			2				112
Miami.....		8	45	7						91

TABLE No. 2—CONCLUDED.

COUNTIES.	Trachoma.....	Tuberculosis (all forms).....	Typhoid fever.....	Whooping cough.....	Occupational diseases...	Veneral diseases.....	Cancer.....	Pellagra.....	Other diseases.....	Total number reported...
Mitchell.....		2	6							328
Montgomery, <i>except</i> ...	1	34	51	31		2	2	2		356
Coffeyville.....	4	18	9	23			6	1		174
Morris.....		6	4	14						81
Morton.....			1	5						53
Nemaha.....		10	8	3		1				93
Neosho.....	2	20	20	136		1				428
Ness.....		2	4	10						27
Norton.....	1	6	11	8						118
Osage.....		10	7	6		1	3			179
Osborne.....		5	4	1						175
Ottawa.....		4	10	24		1	2			313
Pawnee.....	2	6	37	8						119
Phillips.....		12	5							302
Pottawatomie.....		18		65						112
Pratt.....		5	11							68
Rawlins.....		1	2	106	1					163
Reno, <i>except</i>	1	7	19			2				81
Hutchinson.....	1	18	24	23	1	1				576
Republic.....		3	8	35						182
Rice.....		18	10	17			2		1	167
Riley.....		10	11	9	1				4	229
Rooks.....		1	1	5					1	143
Rush.....	1	3								44
Russell.....		4	2	1						182
Saline.....		17	10	8					1	499
Scott.....										9
Sedgwick, <i>except</i>		8	9	9		3	2			315
Wichita.....	63	57	73	79		3	2	6	11	1,678
Seward.....	1	1	7	26						71
Shawnee, <i>except</i>	1	4	4	42		2				173
Topeka.....	2	71	46	70		8	1	1	1	1,165
Sheridan.....		1	2							30
Sherman.....		2	1	3						23
Smith.....		7	6	16						386
Stafford.....	1	7	6	4						49
Stanton.....										
Stevens.....										59
Sumner.....	3	31	31	117		2	6			975
Thomas.....			2	3		1				152
Trego.....										118
Wabaunsee.....		8	7	4			1		1	50
Wallace.....		2	1	4						20
Washington.....		5	6	2						47
Wichita.....		1		2						10
Wilson.....	2	17	26	21			1	1		359
Woodson.....		3	6	51						92
Wyandotte, <i>except</i>		7	2	7			1	1		101
Kansas City.....		163	44	40		7	2		11	1,207
State institutions.....		110	18			9	16	5		239
Total.....	450	1,333	1,298	1,772	3	108	89	42	55	23,442

TABLE No. 3. Tuberculosis morbidity by races.

	1914.	1915.	Total.	Per cent.
White.....	949	1,109	2,058	85.5
Indian.....	6	10	16	0.7
Negro.....	101	176	277	11.5
Mexican.....	17	38	55	2.3
Total.....	1,073	1,333	2,406	.....

TABLE No. 4. Tuberculosis morbidity—conjugal condition.

	1914.	1915.	Total.	Per cent.
Single.....	859	459	818	34.0
Married.....	570	700	1,270	52.8
Widowed.....	87	88	175	7.3
Divorced.....	14	11	25	1.0
Unknown.....	43	75	118	4.9
Total.....	1,073	1,333	2,406	.....

TABLE No. 5. Tuberculosis morbidity—By age, groups and sex.

	1914.			1915.		
	Male.	Female.	Total.	Male.	Female.	Total.
Under 1 year.....	2	3	5	3	2	5
1 to 2 years.....	1	3	4	5	.....	5
3 to 4 years.....	1	.....	1	4	5	9
5 to 9 years.....	2	5	7	6	8	14
10 to 14 years.....	8	6	14	6	21	27
15 to 19 years.....	36	52	88	37	66	103
20 to 24 years.....	74	72	146	88	98	186
25 to 29 years.....	85	69	154	103	99	202
30 to 34 years.....	73	51	124	80	87	167
35 to 39 years.....	74	68	142	64	69	133
40 to 44 years.....	50	38	88	48	39	87
45 to 49 years.....	36	26	62	35	27	62
50 to 59 years.....	59	30	89	82	41	123
60 to 69 years.....	41	25	66	39	35	74
70 to 79 years.....	7	12	19	13	9	22
80 and over.....	3	1	4	1	2	3
Unknown.....	28	30	58	61	56	117
Total.....	580	493	1,073	674	659	1,333

TABLE No. 6. Tuberculosis morbidity—By nativity.

	1914.	1915.	Total.	Per cent.
Native.....	971	1,193	2,164	90.0
Foreign.....	102	140	242	10.0
Total.....	1,073	1,333	2,406	.....

TABLE No. 7. Tuberculosis morbidity—Birthplace of foreign born.

COUNTRY OF BIRTH.	1914.	1915.	Total.	COUNTRY OF BIRTH.	1914.	1915.	Total.
Alaska (Esquimaux).....		1	1	Mexico.....	17	38	55
Austria.....	13	17	30	Norway.....	3	3	6
Belgium.....		1	1	Poland.....	3	.....	3
Bohemia.....	2	3	5	Russia.....	4	5	9
Bulgaria.....		1	1	Scotland.....	2	3	5
Canada.....	5	3	8	Servia.....		1	1
Denmark.....	5	3	8	Spain.....		2	2
England.....	8	4	12	Sweden.....	8	11	19
France.....	1	2	3	Switzerland.....	3	1	4
Germany.....	19	25	44	Wales.....	1	.....	1
Greece.....	1	.....	1	Total.....	102	140	242
Holland.....	1	2	3				
Ireland.....	5	11	16				
Italy.....	1	3	4				

TABLE No. 8. Tuberculosis morbidity—Stage of disease at time of reporting.

STAGE.	1914.	1915.	Total.	Per cent.
Acute miliary.....	27	36	63	2.6
First or incipient.....	185	263	448	18.6
Second or moderately advanced.....	231	294	525	21.8
Third or far advanced.....	549	531	1,080	44.8
Not stated.....	91	209	300	12.4
Total.....	1,073	1,333	2,406	.....

TABLE No. 9. Duration of lesion at time of reporting.

DURATION.	1914.	1915.	Total
1 month.....	20	35	55
3 months.....	96	109	205
6 months.....	172	184	356
1 year.....	210	232	442
2 years.....	129	123	252
3 years.....	49	67	116
4 years.....	16	24	40
5 years.....	29	42	71
6 to 10 years.....	28	39	67
11 to 15 years.....	10	8	18
16 to 35 years.....	18	9	22
Not stated.....	301	461	762
Total.....	1,073	1,333	2,406

TABLE No. 10. Tuberculosis morbidity—Lesions.

LESIONS.	1914.	1915.	Total
1. Lungs.....	377	1,098	1,975
Lungs and larynx.....	95	108	203
Lungs and lymphatics.....	8	5	13
Lungs and intestines.....	4	7	11
Lungs and peritoneum.....	8	6	14
Lungs and bones.....	2	2	4
2. Larynx.....	8	9	17
3. Lymphatics.....	8	14	22
Lymphatics and peritoneum.....	1	2	3
Lymphatics, peritoneum and intestines.....		1	1
Lymphatics and intestines.....		1	1
4. Peritoneum.....	12	19	31
Peritoneum and intestines.....	7	4	11
5. Intestines.....	7	6	13
Intestines and bones.....	1		1
Intestines and meningeal.....	2		2
6. Bones.....	14	13	27
7. Skin.....			
8. Genito-urinary.....	5	6	11
9. Nervous (meningeal).....	6	18	24
10. General.....	8	14	22
Total.....	1,073	1,333	2,406

TABLE No. 11. Tuberculosis morbidity—Laboratory diagnosis.

TUBERCULOSIS BACILLUS FINDINGS.	1914.	1915.	Total.
Positive.....	534	603	1,137
Negative.....	19	90	109
None or not stated.....	520	540	1,060
Total.....	1,073	1,333	2,406

TABLE No. 12. Tuberculosis morbidity—Terminations of cases reported by years.

HOW TERMINATED.	1914.	1915.	Total.
Death.....	538	480	1,018
Removal.....	72	49	121
Arrest or recovery.....	2	1	3
Total.....	612	530	1,142

TABLE No. 13. Tuberculosis patients removed and destinations.

STATE.	1914.	1915.	Total.	STATE.	1914.	1915.	Total.
Arizona.....	6	8	14	New Mexico.....	7	10	17
California.....		4	4	Oklahoma.....	2		2
Colorado.....	14	8	22	South Dakota.....		1	1
Illinois.....	8		8	Tennessee.....		2	2
Indiana.....	1		1	Texas.....		2	2
Mexico (Old).....	1		1	Washington.....	1		1
Missouri (K. C. Kan., cases).....	4	6	10	To southwest—exact destination unknown.....	32	5	37
Montana.....	1		1	Total.....	72	49	121
Nebraska.....		2	2				

TABLE No. 14. Showing morbidity and fatality rates from typhoid fever, by counties.

COUNTIES.	1914.	Mor- bidity rate per 100,000 popula- tion.	Fatality rate.		1915.	Mor- bidity rate per 100,000 popula- tion.	Fatality rate.	
	No. of cases re- ported.		No. of deaths.	Rate per cent	No. of cases re- ported.		No. of deaths.	Rate per cent.
Allen.....	35	148.8	10	28.6	18	76.5	7	39.0
Anderson.....	8	60.1	5	62.5	8	60.1		
Atchison, <i>except</i>			2		2	16.7	3	150.0
Atchison city.....	13	85.1	9	69.0	15	98.2	3	20.0
Barber.....	4	43.4	2	50.0	4	43.4	1	25.0
Barton.....	31	172.0	6	19.4	23	133.1		
Bourbon, <i>except</i>	11	80.8			14	102.8	1	7.1
Fort Scott.....	21	183.8	6	28.6	20	175.1	3	15.0
Brown.....	24	116.8	8	33.3	8	38.7	1	12.5
Butler.....	38	182.8	5	13.2	24	115.4		
Chase.....	37	517.2			3	41.9		
Chautauqua.....	19	169.1	2	10.5	11	97.9		
Cherokee.....	22	60.5	6	27.3	50	137.5	10	20.0
Cheyenne.....	12	291.6	1	8.3				
Clark.....	10	233.1			2	46.6		
Clay.....	14	94.0	3	21.4	7	47.0	1	14.3
Cloud.....	10	51.8	1	10.0	12	80.5		
Coffey.....	4	26.7	3	75.0	8	53.4	3	37.5
Comanche.....	8	178.6	1	12.5	4	86.8		
Cowley.....	108	360.2	11	10.2	23	76.7	3	13.0
Crawford, <i>except</i>	47	110.3	17	36.2	41	96.2	8	19.5
Pittsburg.....	9	50.8	8	88.8	3	16.9	6	
Decatur.....	6	80.0			5	66.6		
Dickinson.....	5	19.7	5	100.0	9	35.5	1	11.1
Doniphan.....	29	199.4	4	14.0	6	41.2	1	16.6
Douglas.....	19	75.6	2	10.5	12	47.7	1	8.3
Edwards.....	4	62.3	1	25.0	5	74.2	1	20.0
Elk.....	12	119.6	3	25.0	6	59.8		
Ellis.....	11	83.3	1	9.0	2	15.1		
Ellsworth.....	12	114.3	2	16.6	8	76.3		
Finney.....	8	132.9	2	25.0	7	16.1	1	14.3
Ford.....	33	251.0	6	18.1	21	159.6	5	24.0
Franklin.....	52	235.2	9	17.3	30	135.7	4	13.6
Geary.....	4	39.7						
Gove.....	4	100.0	1	25.0	3	75.0		
Graham.....					4	53.6	3	75.0
Grant.....								
Gray.....	13	354.0	2	13.0	12	326.3		
Greeley.....	1	109.5	1	100.0				
Greenwood.....	33	227.5	3	9.0	25	172.4	2	8.0
Hamilton.....			1		1	44.4	1	
Harper.....	14	105.1	1	7.1	10	75.1	2	20.0
Harvey.....	32	171.4	5	15.6	17	91.0	1	5.9
Haskell.....					1	100.5		
Hodgeman.....	6	189.5			2	63.2		
Jackson.....	18	113.0	2	11.1	3	18.8	1	33.3
Jefferson.....	16	101.4	4	25.0				
Jewell.....	3	17.4	4		33	191.4	4	12.2
Johnson.....	3	16.2	4		11	59.4	4	36.6
Kearny.....	8	345.4	3	37.5	6	259.1	1	16.6
Kingman.....	6	47.6			17	134.8	1	5.9
Kiowa.....	4	61.8			2	30.9	2	100.0
Labette, <i>except</i>	25	132.3	1	40.0	23	127.5	3	13.0
Parsons.....	23	189.8			10	82.5	1	10.0
Lane.....								
Leavenworth, <i>except</i>	17	91.7	4	23.5	7	37.7	2	28.6
Leavenworth city,.....	24	108.6	2	8.3	14	63.4	2	14.3
Lincoln.....	10	95.8			10	95.8		
Linn.....	6	39.9	4	66.6	11	73.2	3	27.3
Logan.....	1	33.1	1	100.0	1	33.1		
Lyon.....	26	98.2	1	3.8	16	60.4	1	4.2
Marion.....	8	37.0			19	88.0	3	15.8
Marshall.....	22	101.1	3	13.6	10	45.9	1	10.0
McPherson.....	17	80.0			4	18.8	1	25.0
Meade.....	9	170.6	1	11.1	2	37.9		
Miami.....	8	42.8	2	25.0	63	337.3	4	6.3
Mitchell.....	4	29.1			6	43.6	2	33.3
Montgomery, <i>except</i>	42	121.4	9	21.4	51	147.4	13	25.0
Coffeyville.....	21	137.9	6	28.6	9	59.1	1	11.1
Morris.....	3	25.4	1	33.3	4	33.8		
Morton.....	1	57.8	3		1	57.8		
Nemaha.....	7	38.2	2	28.6	8	43.6	1	12.5
Neosho.....	35	151.8	9	25.7	20	86.7		

TABLE No. 14—CONCLUDED.

COUNTIES.	1914.	Mor- bidity rate per 100,000 popula- tion.	Fatality rate.		1915.	Mor- bidity rate per 100,000 popula- tion.	Fatality rate.	
	No. of cases re- ported.		No. of deaths.	Rate per cent.	No. of cases re- ported.		No. of deaths.	Rate per cent.
Ness.....	2	86.0	.....	.....	4	72.0	.....	.....
Norton.....	18	125.0	.....	.....	11	105.8	.....	.....
Osage.....	9	44.8	1	11.1	7	84.8	1	14.8
Osborne.....	8	28.1	2	66.6	4	80.8	.....	.....
Ottawa.....	17	146.5	1	5.9	10	86.1	.....	.....
Pawnee.....	31	358.8	6	19.8	37	427.7	3	8.1
Phillips.....	1	7.5	1	100.0	5	37.5	.....	.....
Pottawatomie.....	1	6.2	.....	.....	.....	.....	.....	.....
Pratt.....	10	85.9	3	80.0	11	94.5	1	9.1
Rawlins.....	5	87.7	2	40.0	2	35.0	.....	.....
Reno, <i>except</i>	3	14.1	2	66.6	19	89.8	2	10.5
Hutchinson.....	51	265.6	7	13.7	24	125.0	4	16.6
Republic.....	10	59.1	1	10.0	8	47.3	2	25.0
Rice.....	20	188.5	4	20.0	10	64.8	1	10.0
Riley.....	26	157.4	1	3.8	11	66.6	.....	.....
Rooks.....	4	37.7	1	25.0	1	9.4	1	100.0
Rush.....	5	62.0	3	60.0	.....	.....	.....	.....
Russell.....	.....	.....	.....	.....	2	18.1	1	50.0
Saline.....	7	88.9	3	42.9	10	48.4	2	20.0
Scott.....	2	87.8	.....	.....	.....	.....	1	.....
Sedgwick, <i>except</i>	11	55.8	2	18.1	9	45.6	.....	.....
Wichita.....	64	119.4	17	26.5	78	186.2	9	12.8
Seward.....	5	111.1	.....	.....	7	183.4	.....	.....
Shawnee, <i>except</i>	10	55.8	3	30.0	4	22.3	2	50.0
Topeka.....	21	44.9	5	23.8	46	98.4	14	30.4
Sheridan.....	.....	.....	.....	.....	2	41.0	.....	.....
Sherman.....	.....	.....	.....	.....	1	24.7	.....	.....
Smith.....	4	26.1	3	75.0	6	39.2	.....	.....
Stafford.....	3	26.8	4	.....	6	52.6	1	16.6
Stanton.....	.....	.....	.....	.....	.....	.....	.....	.....
Stevens.....	3	126.5	2	66.6	.....	.....	.....	.....
Sumner.....	79	281.8	4	5.0	31	110.5	3	9.6
Thomas.....	12	300.5	1	8.8	2	50.1	.....	.....
Trego.....	1	21.6	1	100.0	.....	.....	.....	.....
Wabaunsee.....	5	42.0	.....	.....	7	58.8	1	14.8
Wallace.....	1	47.8	.....	.....	1	47.8	.....	.....
Washington.....	15	78.9	2	13.3	6	31.5	1	16.6
Wichita.....	.....	.....	.....	.....	.....	.....	.....	.....
Wilson.....	52	259.1	7	13.5	26	129.5	2	7.7
Woodson.....	13	139.3	3	23.0	6	64.3	1	16.6
Wyandotte, <i>except</i>	3	15.8	4	.....	2	10.6	2	100.0
Kansas City.....	57	62.2	22	38.6	44	48.0	15	34.1
Totals.....	1,684	100.7	339	20.1	1,298	77.6	195	15.0

TABLE No. 15. Typhoid fever, by color, sex and age, groups.

GROUPS.	1914.					1915.					Reductions, per cent.	
	Morbidity.		Mortality.		Fatality.	Morbidity.		Mortality.		Fatality.		
	No. cases.	Rate.	Deaths.	Rate.		No. cases.	Rate.	Deaths.	Rate.			
White.....	1,618	93.6	308	19.9	19.0	1,247	76.9	179	11.0	14.3	22.9	41.9
Negro.....	66	127.3	31	59.5	47.0	52	100.3	16	30.8	30.7	21.2	48.4
Males.....	965	112.9	188	22.0	19.5	762	89.1	113	13.2	14.8	21.0	39.9
Females.....	719	83.4	161	18.5	21.0	536	65.9	82	10.1	15.0	25.4	45.7
Age groups:												
Under 5 years.....	90	50.5	23	12.9	25.5	79	44.3	16	8.9	20.2	12.2	30.4
5 to 9 years.....	262	144.8	19	10.5	7.2	174	96.2	14	7.2	8.0	33.6	26.4
10 to 14 years.....	266	159.7	27	16.2	10.1	180	103.1	15	9.0	8.3	32.3	44.4
15 to 19 years.....	210	132.8	40	25.3	19.0	213	135.3	28	17.7	13.1	*1.4	30.0
20 to 24 years.....	232	152.1	64	41.9	27.6	179	117.3	31	20.3	17.3	22.8	51.5
25 to 29 years.....	163	123.5	43	31.6	25.6	122	89.7	11	8.1	9.0	27.2	74.4
30 to 34 years.....	100	82.4	29	23.9	29.0	114	93.1	14	11.5	12.3	*14.0	51.7
35 to 39 years.....	87	77.3	13	11.5	15.0	72	64.0	15	13.3	20.8	17.2	*15.4
40 to 44 years.....	63	71.0	17	17.7	25.0	46	48.0	15	15.6	32.6	32.3	11.3
45 to 49 years.....	39	48.0	11	13.5	28.2	32	39.4	8	9.9	25.0	18.0	27.2
50 to 59 years.....	44	32.9	20	14.9	45.5	36	26.9	11	3.2	30.5	18.2	45.0
60 to 69 years.....	22	26.0	15	17.8	68.2	13	15.3	11	13.0	34.6	41.0	26.6
70 to 79 years.....	8	17.5	14	30.6	.....	6	13.1	4	8.7	66.6	25.0	71.4
80 and over.....	.....	.....	3	26.5	.....	1	.....	2	17.6	.....	.....	33.3
Unknown.....	89	.....	.....	.....	.....	31	.....	.....	.....	.....	.....	.....

*NOTE.—Morbidity and mortality rates based on 100,000 population.

TABLE No. 16. Five common communicable diseases by months of occurrence.

MONTHS.	Smallpox.			
	1914.		1915.	
	Cases.	Deaths.	Cases.	Deaths.
January.....	54	.....	534	2
February.....	275	1	296	.....
March.....	397	1	444	1
April.....	246	.....	417	8
May.....	318	1	227	1
June.....	159	1	198	1
July.....	35	.....	97	.....
August.....	18	.....	40	.....
September.....	7	.....	58	.....
October.....	69	1	170	.....
November.....	142	1	283	.....
December.....	249	1	246	.....
Total.....	1,964	7	3,010	8

TABLE No. 16—CONTINUED.

MONTHS.	Diphtheria.			
	1914.		1915.	
	Cases.	Deaths.	Cases.	Deaths.
January.....	71	12	188	28
February.....	79	8	147	14
March.....	82	4	108	21
April.....	64	8	75	10
May.....	35	3	81	8
June.....	20	5	66	9
July.....	18	5	71	8
August.....	28	6	84	9
September.....	87	8	194	11
October.....	438	42	602	43
November.....	457	35	637	41
December.....	290	34	433	43
Total.....	1,669	170	2,681	245

TABLE No. 16—CONTINUED.

MONTHS.	Scarlet fever.			
	1914.		1915.	
	Cases.	Deaths.	Cases.	Deaths.
January.....	64	3	151	4
February.....	85	2	88	4
March.....	121	9	103	8
April.....	68	5	99	1
May.....	72	4	54	1
June.....	26	4	30	.....
July.....	85	3	36	1
August.....	23	1	52	1
September.....	47	.....	80	2
October.....	118	.....	214	4
November.....	122	8	307	5
December.....	90	1	298	4
Total.....	866	35	1,512	35

TABLE No. 16—CONTINUED.

MONTHS.	Measles.			
	1914.		1915.	
	Cases.	Deaths.	Cases.	Deaths.
January.....	60	2	151	.....
February.....	271	5	550	6
March.....	741	17	1,285	6
April.....	1,216	14	1,924	15
May.....	1,053	15	1,668	17
June.....	520	8	823	7
July.....	95	3	230	3
August.....	40	4	76	3
September.....	28	.....	36	1
October.....	33	.....	87	1
November.....	171	2	157	1
December.....	82	1	239	5
Total.....	4,310	71	7,255	65

TABLE No. 16—CONCLUDED.

MONTHS.	Whooping cough.			
	1914.		1915.	
	Cases.	Deaths.	Cases.	Deaths.
January.....	47	5	91	16
February.....	129	10	77	17
March.....	171	16	101	19
April.....	153	21	106	24
May.....	316	27	187	21
June.....	237	23	182	28
July.....	258	22	87	12
August.....	56	22	141	16
September.....	73	7	119	9
October.....	68	8	190	10
November.....	97	12	279	4
December.....	59	10	212	12
Total.....	1,664	183	1,772	188

TABLE No. 17. Diphtheria morbidity by groups.

GROUPS.	1914.						1915.					
	Morbidity.			Mortality.			Morbidity.			Mortality.		
	No. of cases.	Rate per 100,000 popula- tion.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 popula- tion.	Rate per cent.	No. of cases.	Rate per 100,000 popula- tion.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 popula- tion.	Rate per cent.
White.....	1,644	101.4	99.7	165	10.2	10.0	2,636	162.6	98.3	239	14.7	8.8
Negro.....	25	48.2	0.3	5	9.6	20.0	45	86.8	1.7	6	11.6	13.3
Males.....	768	89.8	46.0	76	8.8	9.9	1,206	141.1	44.9	122	14.4	10.1
Females.....	901	110.8	54.0	94	11.5	10.4	1,475	181.4	55.1	123	15.1	8.3
Age groups:												
Under 1 year.....	27	.....	1.6	10	.....	37.0	40	.....	1.5	11	.....	27.5
1 to 2 years.....	70	.....	4.2	48	.....	61.4	147	.....	5.4	55	.....	37.4
3 to 4 years.....	209	.....	12.5	48	.....	23.0	822	.....	12.0	55	.....	17.1
5 to 9 years.....	513	*171.7	30.7	42	*56.6	8.2	1,025	*285.6	38.2	79	*67.9	7.7
10 to 14 years.....	258	283.8	15.4	13	23.2	5.0	1,523	566.9	19.5	31	43.7	5.9
15 to 19 years.....	119	154.9	7.1	5	7.8	4.2	182	313.7	6.8	2	18.6	1.1
20 to 24 years.....	68	75.3	4.1	6	3.1	8.8	112	115.1	4.2	4	1.2	1.1
25 to 29 years.....	38	44.5	2.3	.....	3.9	.....	66	73.4	2.4	1	2.6	3.6
30 to 34 years.....	40	28.0	2.4	.....	.....	.....	60	48.5	2.2	.....	0.7	1.5
35 to 39 years.....	18	33.0	1.1	.....	.....	.....	39	49.5	2.2	.....	.....	.....
40 to 44 years.....	19	16.0	1.1	1	0.8	5.5	18	34.6	1.4	.....	.....	.....
45 to 49 years.....	5	19.8	1.1	.....	.....	.....	14	18.9	0.7	.....	.....	.....
50 to 59 years.....	8	6.1	0.3	1	1.2	20.0	9	17.2	0.5	2	2.4	14.3
60 to 69 years.....	1	6.0	0.8	.....	0.7	12.5	3	6.7	0.3	4	3.0	44.4
70 to 79 years.....	1	1.2	.....	.....	.....	.....	1	3.5	0.1	.....	.....	.....
80 and over.....	1	2.1	.....	.....	.....	.....	.....	2.1	.....	.....	.....	.....
Unknown.....	274	0.9	16.4	.....	.....	.....	120	.....	4.8	.....	.....	.....
Total.....	1,669	99.8	.....	170	10.2	10.2	2,681	160.3	.....	245	14.6	9.1

* Group—Under 5 years.

TABLE No. 18. Scarlet fever morbidity by groups.

Groups.	1914.					1915.				
	Morbidity.		Mortality.		Fatality.	Morbidity.		Mortality.		Fatality.
	No. of cases.	Rate per 100,000 population.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 population.	No. of cases.	Rate per 100,000 population.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 population.
White.....	863	53.2	99.6	34	2.1	1,502	92.6	99.3	35	2.1
Negro.....	3	5.8	0.4	1	1.9	10	19.3	0.7		
Males.....	398	46.6	46.0	17	2.0	681	79.7	45.0	17	2.0
Females.....	468	57.5	54.0	18	2.2	831	102.2	55.0	18	2.2
Age groups:										
Under 1 year.....	18		2.1	1		33		2.2	4	
1 to 2 years.....	42		4.9	7		70		4.6	8	
3 to 4 years.....	113		13.0	4		215		14.1	5	
5 to 9 years.....	332		38.3	12		585		38.7	10	
10 to 14 years.....	169		19.5	6		322		21.3	4	
15 to 19 years.....	46		5.3	2		118		7.3	1	
20 to 24 years.....	14		1.6	1		51		3.4	2	
25 to 29 years.....	15		1.8	1		17		1.1		
30 to 34 years.....	9		1.0	1		13		0.9		
35 to 39 years.....	3		0.3			4		0.3		
40 to 44 years.....	5		0.6			4		0.3		
45 to 49 years.....						5		0.3	1	
50 to 59 years.....	1									
60 to 69 years.....	1									
70 to 79 years.....										
80 and over.....										
Unknown.....	98		11.3			75		4.9		
Total.....	866	51.8		35	2.1	1,512	90.4		35	2.1

* Group—Under 5 years.

TABLE No. 19 Smallpox morbidity by groups.

GROUPS.	1914.					1915.				
	Morbidity.			Mortality.		Morbidity.			Mortality.	
	No. of cases.	Rate per 100,000 population.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 population.	No. of cases.	Rate per 100,000 population.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 population.
White.....	1,888	116.5	96.2	7	0.4	2,914	179.7	96.8	7	0.4
Negro.....	76	146.6	3.8			96	185.1	3.2	1	1.9
Males.....	1,119	130.9	56.9	4	0.47	1,671	195.5	55.5	3	0.35
Females.....	845	103.9	43.1	3	0.35	1,339	164.6	44.5	5	0.58
Age groups:										
Under 1 year.....	20	*	1.0	2		49	*	1.6		
1 to 2 years.....	19		1.0			66		2.2		
3 to 4 years.....	45	*47.1	2.3			104	*122.8	3.5		
5 to 9 years.....	182	100.6	9.2			381	210.7	12.7		
10 to 14 years.....	213	127.9	10.8			437	262.4	14.6	1	.23
15 to 19 years.....	191	120.8	9.6			380	240.4	12.6		
20 to 24 years.....	203	133.0	10.3			302	198.0	10.0		
25 to 29 years.....	119	87.5	6.0			224	164.6	7.4		
30 to 34 years.....	103	84.8	5.2	1	1.00	157	129.3	5.2		
35 to 39 years.....	108	96.0	5.5			159	141.3	5.3	1	.63
40 to 44 years.....	76	79.1	3.8			128	133.6	4.3	1	.78
45 to 49 years.....	67	82.5	3.3	1	1.50	97	119.5	3.2		
50 to 59 years.....	57	42.7	2.9			106	79.4	3.5	2	1.90
60 to 69 years.....	17	20.0	0.8	1		38	44.9	1.2		
70 to 79 years.....	7	15.3	0.3	1		8	17.5	0.3	2	25.00
80 and over.....	1	8.8		1	100.00	1	8.8		1	100.00
Unknown.....	536		28.0			373		12.4		
Total.....	1,964	117.4		7	0.4	3,010	180.0		8	0.4
										.26

* Group—Under 5 years.

TABLE No. 20. Measles morbidity by groups.

GROUPS.	1914.					1915.				
	Morbidity.		Mortality.		Fatality.	Morbidity.		Mortality.		Fatality.
	No. of cases.	Rate per 100,000 population.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 population.	No. of cases.	Rate per 100,000 population.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 population.
White.....	4,239	261.5	98.3	65	4.1	7,154	441.4	98.6	64	3.9
Negro.....	71	137.0	1.7	6	11.5	101	194.8	1.4	1	1.9
Males.....	2,194	256.7	50.9	41	4.8	3,592	420.4	49.5	33	3.9
Females.....	2,116	260.2	49.1	30	3.7	3,663	450.4	50.5	32	3.9
Age groups:										
Under 1 year.....	149	.....	3.5	17	.....	251	.....	3.4	14	.....
1 to 2 years.....	260	.....	6.0	22	.....	376	.....	5.2	21	.....
3 to 4 years.....	461	.....	10.7	10	.....	798	.....	11.0	11	.....
5 to 9 years.....	1,533	*488.1	35.6	5	*27.5	2,776	*799.4	38.2	4	*25.8
10 to 14 years.....	584	348.0	13.5	5	2.7	1,190	1,535.5	16.4	1	2.2
15 to 19 years.....	296	350.6	6.9	.....	3.0	735	714.5	10.1	3	0.6
20 to 24 years.....	145	187.2	3.4	.....	.....	818	464.9	4.4	1	1.9
25 to 29 years.....	82	95.0	1.9	4	2.6	148	208.4	2.0	1	0.6
30 to 34 years.....	48	60.3	1.1	.....	.....	77	109.0	1.1	2	0.7
35 to 39 years.....	20	39.6	0.5	.....	.....	57	63.4	0.8	1	1.6
40 to 44 years.....	19	17.7	0.4	3	2.6	41	50.7	0.6	.....	0.9
45 to 49 years.....	13	19.8	0.3	1	1.0	9	42.8	0.1	.....	.....
50 to 59 years.....	7	16.0	0.1	1	1.2	13	11.0	0.1	2	2.4
60 to 69 years.....	1	5.2	0.1	2	1.5	3	9.8	0.2	2	1.5
70 to 79 years.....	1	1.2	.....	1	1.2	1	3.5	.....	1	1.2
80 and over.....	1	2.2	.....	.....	.....	.....	.....	.....	.....	.....
Unknown.....	689	9.0	16.0	.....	.....	463	.....	6.4	.....	.....
Total.....	4,310	257.7	.....	71	4.2	7,255	433.8	.....	65	3.8

* Groups—Under 5 years.

TABLE No. 21. Whooping cough morbidity by groups.

GROUPS.	1914.						1915.					
	Morbidity.			Mortality.			Morbidity.			Mortality.		
	No. of cases.	Rate per 100,000 population.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 population.	Fatality.	No. of cases.	Rate per 100,000 population.	Per cent cases in each group.	No. of deaths.	Rate per 100,000 population.	Fatality.
White.....	1,618	99.8	97.2	168	10.4	10.4	1,741	107.4	98.2	175	10.8	10.0
Negro.....	46	88.7	2.8	15	28.9	32.6	31	59.8	1.8	13	25.7	42.0
Males.....	848	99.2	50.9	75	8.8	8.8	860	100.6	48.5	86	10.1	10.0
Females.....	816	100.3	49.1	108	13.3	13.2	912	112.1	51.5	102	12.5	11.2
Age groups:												
Under 1 year.....	217	*	13.1	100	*	46.0	277	*	15.6	111	*	40.0
1 to 2 years.....	194	*	11.6	69	*	35.5	194	*	10.9	51	*	26.3
3 to 4 years.....	342	*422.4	20.5	8	*99.3	2.3	371	*472.4	20.9	15	*99.3	4.0
5 to 9 years.....	546	302.0	32.8	3	1.7	0.5	642	355.1	36.2	8	4.5	1.2
10 to 14 years.....	118	70.8	7.1	2	1.2	1.7	137	82.2	7.7	1	0.6	0.7
15 to 19 years.....	19	12.0	1.1				30	18.0	1.7			
20 to 24 years.....	5	3.2	0.3				5	3.2	0.3			
25 to 29 years.....	5	3.6	0.3				6	4.4	0.3	1		16.6
30 to 34 years.....	3	2.4	0.2				4	3.3	0.2			
35 to 39 years.....	3	2.6	0.2	1			1	0.9				
40 to 44 years.....	3	3.1	0.2				1	1.0				
45 to 49 years.....							1	1.2				
50 to 59 years.....							2	1.5	0.1			
60 to 69 years.....	1	1.2	0.1				1	1.2				
70 to 79 years.....							1	2.2		1		100.0
80 and over.....												
Unknown.....	208		12.5				100		5.7			
Total.....	1,664	99.5		183	10.9	11.0	1,772	105.9		188	11.2	10.6

* Group—Under 5 years.

TABLE No. 22. Pellagra morbidity by months of reporting.

MONTHS.	1914.		1915.	
	Cases.	Deaths.	Cases.	Deaths.
January.....	1	1	1	1
February.....	3	1	1	.....
March.....	2	1	2	2
April.....	5	1	1	1
May.....	5	5	7	3
June.....	10	2	3	2
July.....	3	2	9	4
August.....	1	1	5	4
September.....	2	3	2	3
October.....	.....	.....	2	1
November.....	.....	.....	6	.....
December.....	2	2	3	1
Totals.....	34	19	42	22

TABLE No. 23. Pellagra cases by location.

COUNTIES.	1914.		1915.	
	Cases.	Deaths.	Cases.	Deaths.
Allen.....			4	3
Atchison.....	1			
Barton.....	1		1	1
Butler.....	2	1	4	2
Cherokee.....	8	2	8	5
Cowley.....	8	1		
Crawford.....	1	1	1	1
Dickinson.....			1	1
Douglas.....			1	
Greenwood.....	1	1		
Harvey.....	1			
Haskell.....			1	
Kingman.....			1	1
Kiowa.....			1	
Labette.....	1	1		
Leavenworth.....	1	1		
Linn.....			1	
Lyon.....	1	1	1	1
Montgomery.....	2	2	3	
Sedgwick.....	5	5	6	5
Shawnee.....			1	
Stafford.....	2	1		
Sumner.....	1			
Wilson.....	1		1	1
Wyandotte.....	1		1	1
State Hospital.....	2	2	5	
Totals.....	34	19	42	22

TABLE No. 24. Pellagra morbidity by groups.

GROUPS.	1914.		1915.	
	Cases.	Deaths.	Cases.	Deaths.
Male.....	11	6	12	3
Female.....	23	13	30	19
White.....	33	18	39	19
Negro.....	1	1	3	
Age groups:				
15 to 19 years.....	1			1
20 to 24 years.....	1		2	1
25 to 29 years.....	1		3	2
30 to 34 years.....	5	5	2	2
35 to 39 years.....	4		7	3
40 to 44 years.....	2	2	3	1
45 to 49 years.....	5	5	3	3
50 to 59 years.....	8	5	16	5
60 to 69 years.....	4	1	3	3
70 to 79 years.....	1	1	1	
80 to 89 years.....			1	1
Unknown.....	2		1	

TABLE No. 25. Cancer morbidity.

CASES INVESTIGATED.	Males.	Females.	Total.	Per cent.
Sarcoma.....	14	16	30	3.9
Without history of heredity.....	299	354	653	84.8
With history of heredity.....	37	50	87	11.3
Totals.....	350	420	770	
Per cent.....	45.5	54.5		

TABLE No. 26. Cancer morbidity. Males—

LOCATION LESION.	Alcoholic.		Other diseases.	Trauma.
	Yes.	No.		
39. Lip.....	3	18		{Smokers.....6} 7 {Tooth.....1}
Tongue.....	2			
Mouth.....		1		
Jaw.....	1	9		(Tooth.....1) 2
40. Pharynx.....	1	2		2
Oesophagus.....	1			(Chemical burn...1) 1
Stomach.....	15	95		(Gastric ulcer...11) 12
Liver and gall bladder.....	6	34	(Syphilis).....1	4
41. Mesentery.....		3		
Intestines and rectum.....	2	31		(Hemorrhoids....5) 9
43. Breast.....		1		
44. Skin.....		13		1
45. Lungs and pleura.....		1		
Pancreas.....		4		
Bladder.....	1	8		
Prostate.....		14		
Testes.....		2		2
Penis.....		1		
Eye.....		2		
Spleen.....	1	1		
Face, location indefinite...	3	14		(Smokers.....2) 4
Skull.....		2		2
Shoulder.....		1		
Back.....	2	2		1
Multiple.....		2		1
Totals.....	38	261	1	48
Per cent.....	12.7	87.3	0.3	16.0

Cancer without history of heredity.

Duration.							Metastases.		Microscopic confirmation.		Total.
3 mos.	6 mos.	9 mos.	1 year.	2 years.	3 years.	Not speci- fied or longer.	+	—	None.	Posi- tive.	No. of cases.
.....	2	.....	1	10	3	5	8	13	16	5	21
.....	.....	.....	.....	1	.....	1	1	1	1	1	2
.....	.....	.....	.....	1	.....	.....	1	.....	1	.....	1
.....	.....	.....	2	2	3	3	3	7	7	3	10
.....	.....	.....	.....	1	.....	2	.....	3	3	.....	3
.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	1
3	9	10	17	22	8	41	32	78	100	1* 9	110
1	1	3	9	10	3	13	8	32	38	2	40
.....	1	.....	2	.....	.....	.....	1	2	2	1	3
.....	1	5	1	3	4	217	6	27	31	2	33
.....	.....	.....	.....	.....	.....	1	1	.....	1	.....	1
.....	2	.....	1	1	2	7	4	9	11	2	13
.....	.....	.....	1	.....	.....	.....	.....	1	1	.....	1
.....	1	1	2	.....	.....	.....	1	3	3	1	4
.....	.....	.....	1	2	1	6	3	6	9	.....	9
1	1	.....	4	.....	1	7	4	10	9	1* 4	14
.....	.....	1	.....	1	.....	.....	2	.....	1	1	2
.....	.....	.....	.....	.....	.....	5 yrs. 1	.....	1	.....	1	1
.....	1	.....	.....	.....	.....	12 yrs. 1	1	1	1	1	2
.....	.....	1	.....	.....	.....	1	1	1	2	.....	2
.....	1	.....	2	6	1	6	6	11	14	3	17
.....	.....	.....	.....	.....	.....	2	.....	2	2	.....	2
.....	.....	.....	.....	.....	1	.....	1	.....	.....	1	1
.....	.....	.....	1	1	.....	2	2	2	4	.....	4
.....	.....	.....	.....	.....	.....	2	.....	2	1	1	2
5	20	21	45	61	28	119	86	213	259	2* 38	299
.....	.....	.....	.....	.....	.....	.....	28.8	71.2	86.7	0.6* 12.7	.....

*Negative.

TABLE No. 27. Cancer morbidity. Females—

LOCATION LESION.	Alcoholic.		Other diseases.	Trauma.
	Yes.	No.		
39. Lip.....	1			
Tongue.....		1		
40. Pharynx (tonsil).....		1		
Stomach.....		82		{Smoker..... 1} 24
Liver and gall bladder.....		52	{Syphilis..... 1} 3	{Ulcer..... 20} 24
			{Tuberculosis..... 2}	{Gallstone..... 5} 8
				{Cholecystitis..... 1}
41. Mesentery and peritoneum.....		4		
Intestines and rectum.....	5	36	(Tuberculosis..... 2) 2	{Ulcer..... 3} 6
				{Hemorrhoids..... 3}
				{Direct trauma.... 1}
				{Miscarriage..... 1}
42. Uterus.....		83	{Tuberculosis..... 1} 4	{Laceration..... 28} 40
			{Syphilis..... 3}	{Ulcer..... 7}
				{Pus tube..... 1}
				{Pessary..... 1}
				{Prolapse..... 1}
43. Breast.....	2	60	(Syphilis..... 1) 1	{Mastitis..... 2} 13
				{Abscess..... 3}
				{Scratch..... 1}
				{Blows..... 7}
44. Skin.....		6		(Eye glass..... 1) 2
45. Larynx.....		1		
Lungs and pleura.....		1		
Pancreas.....		5		
Kidney.....		2		
Face, location indefinite.....		7		
Axilla.....	1			
Pelvic cavity.....		4		
Totals.....	9	345	{Syphilis..... 5} 10	93
Per cent.....	2.5	97.5	{Tuberculosis..... 5} 2.8	26.3

Cancer without history of heredity.

Duration.							Metastases.		Microscopic confirmation.		Total.
3 mos.	6 mos.	9 mos.	1 year.	2 years.	3 years.	Not specified or longer.	+	—	None.	Positive.	No. of cases.
.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	1
.....	.....	.....	.....	.....	.....	1	.....	1	.....	1	1
.....	.....	.....	.....	1	.....	.....	.....	1	.....	1	1
3	9	6	11	18	4	36	27	55	81	1	82
1	6	3	11	10	1	20	11	41	46	6	52
.....	.....	.....	2	1	1	.....	1	3	3	1	4
1	3	1	6	10	7	13	11	30	33	8	41
.....
2	4	4	8	24	7	34	26	57	66	17	83
.....
.....	.....	2	3	13	16	28	43	19	44	18	62
.....	.....	.....	1	1	1	3	4	2	1	5	6
.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	1
.....	.....	.....	.....	.....	.....	1	.....	1	.....	1	1
.....	1	.....	.....	.....	.....	4	2	3	2	3	5
.....	1	.....	1	.....	.....	.....	1	1	1	1	2
.....	.....	1	2	.....	.....	4	2	5	7	.....	7
.....	.....	.....	.....	1	.....	.....	.....	1	.....	1	1
.....	.....	.....	.....	1	1	2	2	2	3	1	4
7	25	17	45	75	38	147	130	224	288	66	354
.....	.....	.....	.....	.....	.....	.....	36.7	63.3	81.4	18.6	.....

TABLE No. 28. Cancer morbidity. Sarcomas—

LOCATION LESION.	Sex.		Other diseases.	Trauma.
	Male.	Fe- male.		
<i>Sarcomas:</i>				
40. Oesophagus.....	1			
Liver.....		3		
41. Mesentery.....		1		Began in pancreas....
Intestines.....	1			Hit by baseball 1 year previously.
Colon.....		1		Injury, not defined....
42. Ovary.....		1		
Uterus.....		1		Lacerated cervix.....
45. Lung.....	1			Began in ulna.....
Kidney.....	1		Tuberculosis.....	
Prostate.....	1			Testes removed 5 years before.....
Testes.....	1			Injury; blow.....
Arm.....	1			Began in wrist.....
Foot.....	1			Crushing injury.....
Cervical.....	1	1		
Neck.....	2	1	Tuberculosis, 1 female. Syphilis, 1 male.....	
Buttocks.....	1			
Abdomen.....		1		
<i>Osteosarcomas:</i>				
Ilium.....	1	1		In female began in mam- mary gland.....
Ribs.....	1	1		Both followed fracture.
<i>Lympho-sarcoma:</i>				
Mediastinum.....		1	Syphilis.....	Began in thymus....
Hip.....	1			
<i>Chorioepithelioma</i>		1		
<i>Endothelioma:</i>				
Brain.....		1		
<i>Glioma:</i>				
Eye.....		1	Alcoholic.....	
Totals.....	14	16	2 Tuberculosis... } 2 Syphilis..... } 5 1 Alcoholic..... }	12
Percent.....	46.6	53.4	16.6	40.0

without history of heredity.

Duration.							Metastases.		Microscopical confirmation.		Total.
3 mos.	6 mos.	9 mos.	1 year.	2 years.	3 years.	Not speci- fied or longer.	+	—	None.	Posi- tive.	No. of cases.
			1					1		1	1
			1	1		1		3	2	1	3
						1	1		1		1
			1					1		1	1
1								1	1		1
			1					1	1		1
						1	1		1		1
	1						1		1		1
1							* 1		1		1
						1	1		1		1
				1				1		1	1
				1			* 1			1	1
	1						* 1			1	1
			1					1	1		1
	1	1				1	† 1	2	3		3
1								1	1		1
					1			1	1		1
			1			1	2		2		2
	1		1				1	1	1	1	2
			1				* 1			1	1
						1	‡ 1			1	1
	1						** 1			1	1
				1				1		1	1
		1					1			1	1
3	5	2	8	4	1	7	15	15	18	12	30
							50.0	50.0	60.0	40.0	

*To lung. †To gland. ‡To pelvis. **To rectum.

TABLE No. 29. Cancer morbidity—Metastases in 111 cancer cases.

FEMALES.			MALES.		
From	To	No. cases.	From	To	No. cases.
Stomach.....	Liver.....	4	Lip.....	Submaxillary.....	1
Stomach.....	Pancreas.....	2	Lip.....	Arm and intestines.....	1
Stomach.....	Breast.....	7	Lip.....	Neck and back.....	1
Stomach.....	Spleen.....	1	Jaw.....	Lungs.....	1
Stomach.....	Omentum.....	1	Stomach.....	Liver.....	11
Stomach.....	Axilla.....	8	Stomach.....	Mesentery.....	3
Stomach.....	Intestines.....	1	Stomach.....	Axilla.....	1
Stomach.....	Extensive.....	1	Stomach.....	Intestines.....	1
Liver.....	Stomach.....	5	Stomach.....	Peritoneum.....	1
Liver.....	Axilla.....	1	Stomach.....	Groin and axilla.....	1
Liver.....	Rectum.....	1	Stomach.....	Duodenum and pancreas.....	1
Liver.....	Lymphatic.....	1	Liver.....	Stomach.....	1
Liver.....	Colon.....	1	Intestines.....	Liver.....	1
Intestines.....	Liver.....	1	Rectum.....	Lymphatics.....	1
Intestines.....	Omentum.....	1	Mesentery.....	Stomach.....	1
Intestines.....	Pelvis.....	1	Prostate.....	Lymphatics.....	1
Intestines.....	Mesentery.....	1	Prostate.....	Testicle.....	1
Uterus.....	Liver.....	4	Prostate.....	Liver.....	1
Uterus.....	Intestines.....	1	Face.....	Larynx.....	1
Uterus.....	Bladder.....	3	Lungs.....	Liver and stomach.....	1
Uterus.....	Inguinal gland.....	1	Axilla.....	Lymphatics.....	1
Uterus.....	Gall bladder.....	1	Eye.....	Stomach.....	1
Uterus.....	Omentum.....	1	Shoulder.....	Intestines.....	1
Uterus.....	Stomach.....	1	Chest.....	Axilla.....	1
Uterus.....	Abdomen.....	1	Total.....		36
Uterus.....	Face.....	1			
Uterus.....	Chest.....	1			
Breast.....	Axilla.....	11			
Breast.....	Other breast.....	1			
Breast.....	Abdomen.....	1			
Breast.....	Lumbar vertebra.....	1			
Breast.....	Spine.....	1			
Breast.....	Liver.....	3			
Breast.....	Liver and stomach.....	1			
Breast.....	Lung.....	3			
Breast.....	Stomach.....	1			
Skin of face...	Breast.....	1			
Skin of face...	Lung.....	1			
Skin of face...	Cervical glands.....	1			
Kidney.....	Omentum.....	1			
Total.....		75			

TABLE No. 80. Cancer morbidity—Metastases from primary lesions causing death.

Metastasis causing death.	Primary lesion.	No. cases.	Metastasis causing death.	Primary lesion.	No. cases.
Stomach.....	"Stomach".....	138	Intestines...	Cæcum.....	2
Stomach.....	Pylorus.....	39	Intestines...	Sigmoid.....	3
Stomach.....	Breast.....	4	Intestines...	Rectum.....	1
Stomach.....	Face.....	2	Intestines...	Mesentery.....	1
Stomach.....	Liver.....	2	Intestines...	Peritoneum.....	1
Stomach.....	Colon.....	1	Intestines...	Bladder.....	1
Stomach.....	Duodenum.....	1	Intestines...	Penis.....	1
Stomach.....	Bladder.....	1			
Stomach.....	Axilla.....	1	Rectum....	"Rectum".....	1
Stomach.....	Uterus.....	1	Rectum....	Sigmoid.....	1
Stomach.....	Gall bladder.....	1			
Liver.....	"Liver".....	64	Pancreas...	Stomach.....	1
Liver.....	Gall bladder.....	20	Pancreas...	Duodenum.....	1
Liver.....	Stomach.....	2	Bladder....	"Bladder".....	6
Liver.....	Breast.....	1	Bladder....	Prostate.....	1
Liver.....	Colon.....	2	Bladder....	Ovary.....	1
Liver.....	Bladder.....	1	Bladder....	Appendix.....	1
Liver.....	Kidney.....	1			
Omentum....	Ovary.....	1	Uterus.....	"Uterus".....	45
Intestines....	"Intestines".....	63	Uterus.....	Cervix.....	37
Intestines....	Liver.....	61	Uterus.....	Ovary.....	1
				Total.....	458

TABLE No. 31—Cancer morbidity—cases giving history of heredity.

		Sex.		History.
Age.		Male.....	Female.....	
39. Face.....	66	Male.....	.....	Inveterate pipe smoker; began 4 years before inner surface cheek. Metastases to neck and jaw. (Mother had cancer on nose.)
Face and mouth.....	93	.....	Female.....	Began inside of cheek 6 to 8 months previously; incessant pipe smoker; no metastases. (Two nieces age 40 and 50 have cancer.)
Face.....	70	.....	Female.....	Began right superior turbinate 2 years before; metastases; pathological examination; round celled sarcoma. (Brother died of cancer. Husband died abdominal cancer—she nursed both.)
Face.....	66	Male.....	.....	Began on lower lip 10 years before; bad teeth; rapid growth one year with metastases to eye and cheek. (Father and brother had cancer.)
Face.....	72	Male.....	.....	Began as papilloma on ala of nose; metastases to cheek; 3 years later turbinates; duration 10 years. (Brother died from cancer.)
Face.....	81	Male.....	.....	Began on upper eyelid 5 years before; rapid development last 2 years; no metastases. (Wife died from cancer.)
Face.....	68	Male.....	.....	Began on lower jaw, site third molar—irritated by molar; duration one and one-third years. Metastasis to submaxillary. (Mother died from cancer of face.)
Neck.....	17	Male.....	.....	Began 10 years before in neck below left ear; slow growth for 3 years; 5 years rapid; operation; metastases to abdomen. Pathological examination, lymphosarcoma. (Father had cancer of face, starting on lip.)
Neck.....	66	Male.....	.....	Began on outer canthus left eye 6 years before; metastases to parotid. Pathological examination; epithelioma. (Hereditary history.)
Face (skin).....	72	Male.....	.....	Began in skin under right eye 2 years before; rapid growth last fourteen months; history of rheumatism; no metastases. (An aunt had cancer—maternal.)
Lower jaw.....	66	Male.....	.....	Began right submaxillary gland 3 years before. Alcoholic; inveterate chewer of tobacco. (Mother had cancer in pelvis.)
40. Stomach.....	85	Male.....	.....	Began cardiac end. Duration 2 years. No metastases. (Brother died at the age of 72 and sister at the age of 66 from cancer of stomach.)
Stomach.....	57	.....	Female.....	Began in pancreas 8 or 10 years before. No metastasis. Pathological examination—cancer of pancreas. (Nursed daughter who died from cancer one year before.)
Stomach.....	54	.....	Female.....	Began in fundus 18 months before. No metastasis. (Mother died from cancer at the age of 64.)
Stomach.....	84	Male.....	.....	Began in pylorus. (Father died from cancer of mouth.)
Stomach.....	48	Male.....	.....	Began in stomach 6 months before; had gastric ulcer. (Hereditary origin (?).)

Stomach . . .	21	Female . . .	Began in stomach. (Aunt died from cancer.)
Stomach . . .	74	Female . . .	Began in pylorus 1 year before. No metastasis. (Husband died of cancer 8 years before; mother died of tuberculosis.)
Stomach . . .	71	Female . . .	Began in stomach 8 years before. No metastasis. (Mother died from cancer of stomach. Lived together.)
Stomach and colon.	45	Male . . .	Began upper sigmoid. Alcoholic; syphilis; metastasis to stomach. (Father died from cancer of stomach.)
Stomach . . .	76	Male . . .	Began in pylorus 2 years before. Chronic gastritis. (Wife had cancer of nose.)
Stomach . . .	66	Female . . .	No data. (Mother died from cancer.)
Stomach . . .	87	Female . . .	Began in stomach 2 years ago. No metastasis. (Mother's mother died from stomach cancer(?)).
Stomach . . .	60	Female . . .	Began cardiac and 2 years before; chronic melancholia several years. Rapid growth 1 year. No metastasis. (Mother died from cancer of stomach, at the age of 75 years.)
Stomach . . .	76	Male . . .	Began in stomach 2 years before. Metastasis to prostate. (Wife died from cancer of breast two and one-half years before.)
Stomach . . .	83	Male . . .	Began maxilla; jaw bone diseased and part removed 85 years before. Metastases to stomach. Rapid growth 1 month. (Two brothers aged 45 and 86 died from cancer of face.)
Stomach and liver . . .	45	Male . . .	Began in liver one year before. Metastases to stomach and bowels. (Father died from cancer of stomach.)
Stomach . . .	69	Female . . .	Began pylorus. No metastasis. (Brother died of cancer of face.)
Stomach . . .	66	Male . . .	Boys development 9 months. Fifteen years before wagon load of wood ever since. Metastasis to pylorus. (Mother and maternal grand-
Stomach and liver . . .	62	Female . . .	Began in gall-bladder 2 years before. Rapid growth 6 months. Gastric ulcer for years. (Sister died from cancer.)
Stomach . . .	44	Male . . .	Began in pylorus 1 year before. Alcoholic. (Grandfather had cancer of stomach; mother tuberculosis.)
Stomach and liver . . .	70	Male . . .	No data. (Brother died from cancer.)
Stomach . . .	56	Male . . .	Began in pylorus 4 months before. No metastasis. (Mother died from cancer of stomach at the age of 82.)
Stomach . . .	70	Male . . .	Began in stomach 4 years before death. Rheumatism and indigestion. (Daughter died from cancer of rectum 5 years before. Lived with her 4 months.)
Stomach . . .	71	Male . . .	Began in stomach 10 months before. No metastasis. (Father had cancer(?); one cousin cancer of breast; one cousin cancer of internal organ.)
Stomach . . .	70	Female . . .	Began in pylorus 2 years before. Had supposed hepatic inflammation at various times. No metastasis. (Maternal aunt had cancer.)
Liver . . .	53	Female . . .	Began in liver 2 years before. Severe fall 30 years previous. (Half brother died of cancer 26 years before.)

TABLE No. 31—CONTINUED.

	Age.	Sex.		History.
Liver.....	61	.....	Female...	Began in liver following gall-stone operation. (Mother died from cancer.)
Liver and bowels....	64	.....	Female...	Began a year before. Metastasis to liver. (Mother and father died at same age similarly.)
Liver.....	53	Male.....	.....	Began in liver. No metastasis. (Hereditary—no history.)
Liver.....	68	.....	Female...	Began in breast 3 years before. Removed. Metastases to bowels, axilla and liver. Pathological examination, positive. (Sister died from cancer.)
Liver.....	55	.....	Female...	Began in liver, gall stones and cholecystitis; cervical tear; Metastasis to uterus and omentum. 6 months duration. (Grandmother had cancer.)
Liver.....	59	.....	Female...	Began in liver 3 months before. No metastasis. (Mother and father died from cancer.)
Liver.....	60	Male.....	.....	Began in stomach(?) 6 months before. (Wife died from cancer of stomach.)
Liver.....	73	.....	Female...	Began in breast 18 months previous. History of abscess after child birth leaving deep induration. Metastases to liver and diaphragm. Pathological examination positive. (Grandmother had cancer of bone. One aunt cancer of breast.)
Liver.....	66	Male.....	.....	Began in duodenum 2 years before. Metastasis to liver. History of wagon crushing him against a tree. (Sister had cancer of breast.)
Liver.....	77	Male.....	.....	Began in liver 3 years before. No metastasis. Alcoholic. Inveterate smoker. Fall from scaffold 32 years before. (Mother died from cancer of face. Lived with her last few months.)
Liver.....	66	Male.....	.....	Began in stomach 3 years before. Had gall-stones. (Father and brother died from cancer of stomach—sister from cancer of uterus.)
Liver.....	71	.....	Female...	Began in stomach 8 months before. Ninth and tenth ribs fractured 2 years previously. (Aunt died from cancer of stomach.)
Liver.....	52	Male.....	.....	Began in common bile-duct 1 year before. History of attacks of gall-stone colic. Metastases to stomach and intestines. (Father's father died from cancer of liver at the age of 56—father from cancer of lower bowel, at the age of 60.)
Liver.....	77	Male.....	.....	Began in gall-bladder, tumor found 7 months before. History of gall-stone colics. Metastasis to omentum. (Father died from epithelioma of lip at the age of 35 years.)
Liver.....	74	.....	Female...	Began in gall-bladder 15 years before. History of gall-stone colics at 17 years of age. Daughter has cholelithiasis. (Mother had cancer.)
41. Omentum.....	57	.....	Female...	Began in region of stomach 1 year before. (Brother died of malignant growth in stomach.)

Intestines.....	58	.....	Female....	Began 1 year before. Metastases. (Mother died from cancer of breast.)
Cæcum.....	35	Male.....	.....	Began in cæcum 2 years before. No metastasis. Pathological examination positive. (Mother by adoption had cancer of stomach.)
Colon.....	66	.....	Female....	Began on ascending colon 6 months before. No metastasis. (Son died from cancer of intestines 1 year before. Lived with her.)
Colon.....	54	.....	Female....	Began in transverse colon 13 months before. Rapid growth. (Mother died from cancer of breast. Nursed her.)
Colon.....	77	Male.....	.....	Began in flexure of colon 3 years before. Aleoholic; chewed and smoked tobacco to excess. Chronic indigestion. (Mother died from cancer of leg, traumatic in origin.)
Colon.....	24	Male.....	.....	Began in colon 18 months before. Metastases to jejunum. Pathological examination—adenocarcinoma. (Father died from cancer of stomach 2 years before. Lived together.)
Colon.....	78	Male.....	.....	Began in duodenum 5 months before. Inveterate pipe smoker. Chronic diarrhea 50 years. Metastases to liver and lungs. (Hereditary history.)
Sigmoid.....	66	.....	Female....	Began in sigmoid 1 year before. No metastasis. (Mother died from cancer of stomach. One brother from cancer of sigmoid, one brother from Bright's disease, one brother from infected (?) hip.
Rectum.....	71	Male.....	.....	Began in rectum some months before. Had rectal trouble and treated for hemorrhoids. Pathological examination—adeno-carcinoma. (Wife died from cancer 12 years before.)
42. Uterus.....	42	.....	Female....	Began in cervix. History of cervical tear and curettage 2 years before. No metastasis. (Paternal grandfather had cancer of stomach.)
Uterus.....	34	.....	Female....	Began 9 months before. No metastases. (Paternal grandfather had cancer of face.)
Uterus.....	43	.....	Female....	Began in stomach (?) Metastases to intestines and uterus. (Husband died 2 years previously of sarcoma of neck.)
Uterus and bladder..	23	.....	Female....	Began in uterus following curettement and ventral fixation 2 years before. Hysterectomy. No metastases. (Grand-mother died from cancer.)
Uterus.....	47	.....	Female....	Began in lacerated cervix 6 months before. Death followed shock hysterectomy. (Lived in same house with case of cancer for years.)
Uterus.....	55	.....	Female....	Began in uterus 6 years before. Active growth last 2 years. Had had four children. No metastases. (Mother died from cancer of nose and face. Nursed her.)
Uterus.....	38	.....	Female....	Began in cervix less than 1 year before. Two children. Pathological examination, positive; epithelioma. (Father had cancer; also grandfather.)
Uterus.....	61	.....	Female....	Began in lacerated cervix 8 months before. Rapid growth last month. Smoked pipe. No metastases. (Mother died of cancer 3 years before. Husband died from cancer of bladder 8 years before. Nursed both.)
Vagina.....	71	.....	Female....	Began 12 years before. Rapid growth last 18 months. Five children. (Father died from cancer of face.)

TABLE No. 31—CONCLUDED.

	Age.	Sex.	History.
43. Breast.....	42	Female...	Began in left mammary. Duration not known. Pathological examination, positive. (Father had cancer of lip. Removed—no return.)
Breast.....	60	Female...	Began in left breast. Removed 2 years before. Returned. Left hemiplegia 30 years. Metastases to stomach. (One sister with cancer of breast lived with her.)
Breast.....	64	Female...	Began in left breast 34 years before. Metastases to uterus, shoulder and thighs. (Mother lived with her and died from cancer of breast.)
Breast.....	40	Female...	Began in right breast. Removed both breasts. No recurrence here. Metastases to brain. (Lived in same house with case for years.)
Breast.....	40	Female...	Began in left breast, 20 months before. Metastases to axilla. (Grandfather's sister died from cancer. Brother died of tuberculosis.)
Breast.....	59	Female...	Began in left breast 15 months before. Metastases. (Mother and sister had cancer of breast.)
Breast.....	47	Female...	Began in left breast 12 years before. Dislocated left shoulder 1 year before. Rapid development followed accident. (Sister died from cancer 8 years before.)
Breast.....	52	Female...	Began in left breast 4 years before. Rapid growth last 10 months. Metastases to liver. (Mother died from cancer of foot at the age of 49, 29 years before.)
Breast.....	66	Female...	Began in right breast 1 year before. Four years previous had a fall, striking breast on chair. Always discomfort following. No metastases. (Daughter died from cancer of breast 2 years before.)
Breast.....	45	Female...	Began in breast milk-ducts 6 years before. Rapid growth 1 year. History of chronic mastitis. No metastases. (Grandmother had cancer.)
Breast.....	41	Female...	Began in left breast 2 years before. Always had retracted nipples. Metastases. Pathological examination—carcinoma. (Mother died from cancer of stomach.)
Breast (sarcoma)....	63	Female...	Began in right breast. Noticed 6 years before—size of walnut. Operated on 1 month later; breast and glands removed. X-Ray used. (Mother died from cancer of breast.)
44. Skin.....	40	Female...	Began in skin right inguinal region. Had small papilloma and attempted removal with silk thread. Pathological examination—sarcoma. (One brother, two sisters have cancer now.)
45. Bladder.....	53	Female...	Began 8 months before. Rapid growth. No metastases. (Mother had cancer of stomach.)
Prostate.....	80	Male.....	Began 2 years before. First symptom, rectal hemorrhages. (Wife died from cancer of breast 3 years before.)
Osteo-sarcoma.....	39	Male.....	Began 10 months before. Injury to arm 2 years before. Metastases to thorax. Pathological examination, positive. (Father died from cancer of stomach. Lived with him 3 years.)
Total.....		37	50

TABLE No. 32. Line of possible transmission through heredity and contact in 87 cancer cases

	Preceding cases.	Existing case.	No. of instances.
Paternal line.....	Grandfather, father.....	Son.....	1
	Grandfather, father.....	Daughter.....	3
	Grandmother, father.....	Daughter.....	2
	Father.....	Son.....	7
	Father, brother.....	Son.....	1
	Father, brother, sister.....	Son.....	1
	Father.....	Daughter.....	2
Maternal line.....	Grandfather, mother.....	Son.....	1
	Grandmother, mother.....	Son.....	1
	Grandmother, mother.....	Daughter.....	2
	Mother.....	Son.....	7
	Mother, brother.....	Son.....	1
	Mother, daughter.....	Daughter.....	18
	Mother, sister.....	Daughter.....	1
Fraternal.....	Brother.....	Brother.....	2
	Brother, brother.....	Brother.....	1
	Brother, sister.....	Brother.....	1
	Brother.....	Sister.....	3
	Brother, sister, sister.....	Sister.....	1
	Sister.....	Brother.....	1
	Sister.....	Sister.....	4
Indirect.....	Great-aunt.....	Great-niece.....	1
	Aunt.....	Nephew.....	1
	Aunt.....	Niece.....	4
	Cousin.....	Cousin.....	1
Contact.....	Husband.....	Wife.....	2
	Wife.....	Husband.....	6
	Adopted mother.....	Adopted son..	1
	Other living contact.....	Two cases....	2
	Heredity history, not specified.....	Four cases....	4

TABLE No 33. Possible effect of heredity and contact in eighty-seven cases of cancer.

LESION IN PATIENT.	Total No. cases.	Lesions in other members of family.	Possible transmission through—		
			Heredity.	Heredity and contact.	Contact.*
39. Face.....	8	Not stated.....	4	1	1
		Nose.....	1		
		Face.....	1		
Neck.....	2	Not stated.....	1		
		Face.....	1		
Lower Jaw.....	1	Pelvis.....	1		
40. Stomach.....	25	Not stated.....	9	1	1
		Mouth.....	1		
		Nose.....			1
		Face.....	2		
		Stomach.....	7	1	
		Rectum.....		1	
		Breast.....			1
Liver.....	16	Not stated.....	7		
		Lip.....	1		
		Face.....		1	
		Stomach.....	2		1
		Liver.....	2		
		Breast.....	1		
		Bone.....	1		
41. Omentum.....	1	Stomach.....	1		
Intestines.....	1	Breast.....	1		
Caecum.....	1	Stomach.....			1
Colon.....	5	Not stated.....	1		
		Stomach.....			
		Intestines.....		1	
		Breast.....		1	
		Leg.....	1	1	
Sigmoid.....	1	Stomach and sigmoid.....	1		
Rectum.....	1	Not stated.....			1
42. Uterus.....	8	Not stated.....	2	1	1
		Face.....	1	1	
		Neck.....			1
		Stomach.....	1		
Vagina.....	1	Face.....	1		
43. Breast.....	12	Not stated.....	8		1
		Lip.....	1		
		Stomach.....	1		
		Breast.....	3	2	
		Foot.....	1		
44. Skin.....	1	Not stated.....	1		
45. Bladder.....	1	Stomach.....	1		
Prostate.....	1	Breast.....			1
Osteo-sarcoma, arm.....	1	Stomach.....		1	
Totals.....	87		63	13	11

*Contact implies husband or wife.

TABLE No. 35. Laboratory diagnosis of rabies, 5 years, 1911 to 1915, inclusive.

	1911.		1912.		1913.		1914.		1915.		Total.		Total.	Per cent Posi- tive.	Per Nega- tive.
	Posi- tive.	Nega- tive.	Posi- tive.	Nega- tive.	Posi- tive.	Nega- tive.	Posi- tive.	Nega- tive.	Posi- tive.	Nega- tive.	Posi- tive.	Nega- tive.			
January.....	6	.....	4	1	2	3	2	.....	1	.....	15	4	19	77.2	22.8
February.....	3	.....	1	.....	1	.....	1	1	2	.....	8	1	9	88.9	11.1
March.....	8	5	1	1	.....	2	3	1	4	2	16	11	27	59.3	40.7
April.....	3	3	4	1	1	.....	5	.....	2	3	15	7	22	68.2	31.8
May.....	5	2	3	2	2	1	4	1	3	2	17	8	25	68.0	32.0
June.....	1	1	2	.....	2	.....	1	1	.....	1	6	3	9	66.6	33.4
July.....	1	.....	.....	.....	.....	1	.....	.....	3	1	4	2	6	66.6	33.4
August.....	2	2	.....	1	1	1	1	.....	2	.....	6	4	10	60.0	40.0
September.....	3	.....	.....	.....	2	1	.....	.....	1	1	6	2	8	75.0	25.0
October.....	3	1	1	1	4	.....	2	2	.....	.....	10	4	14	71.8	28.2
November.....	4	.....	1	.....	5	1	1	.....	.....	2	11	3	14	78.5	21.5
December.....	6	1	3	1	3	.....	2	.....	2	.....	16	2	18	88.8	11.2
Totals.....	45	15	20	8	23	10	22	6	20	12	130	51	181	.....	.....

Osage.....	4	31	1	1	1	150
Osborne.....	2	12	12	20	1,700	
Ottawa.....	1					
Pottawatomie.....	12	12			1	
Republic.....	4	3		1	1	25
Rice.....	6	4				
Riley.....	7			1		
Russell.....	2		1		1	125
Saline.....	1					
Sedgwick.....	17	14	1	3		200
Shawnee.....	10	39		—	2	
Sumner.....	11	29	4	2	12	750
Wabaunsee.....	5	3				
Wilson.....	3	4			1	5
Woodson.....	1	4				
Wyandotte.....	12	20				
Total.....	269	524	28	87	34	23
						\$6,765

TABLE No. 34—CONCLUDED.

COUNTIES.	Infections and treatments in human cases.							ber tive tory ign ative m.
	Number of persons bitten by suspected animals.	Local.			Anti-		Expense.	
		Phenol.	Cautery.	Anti- septica.	By local physi- cian.	Bell Mem- orial, (free).		
Allen	16		4	3	5	1	\$850	9
Anderson	1			1	1		50	3
Atchison	1				1		50	1
Barton	2			7			50	2
Bourbon	6		2		1		50	2
Brown	2			6			500	4
Butler	4		3	2	3	1	200	2
Chase	4			1	3		230	2
Chautauque	2			7	2		30	3
Clay								1
Cloud	2			7		1	200	1
Coffey								1
Comanche	1					1	150	1
Cowley	4			7	3		150	1
Crawford	7	1	1	4	2	4		1
Dickinson	1			7				1
Doniphan	2		2		2		360	2
Douglas	4			7	4		200	2
Douglas	3		4		4		200	2
Elk	4							10
Franklin	1			7				2
Geary	1			7	1		50	1
Harper	1			7	2		100	1
Harvey	2				3		650	2
Jackson	11		3		3	3	100	3
Jefferson	3			7	2		100	1
Johnson	2			7		2	100	1
Kingman	1			7	1		50	7
Labette	13			7	10		650	1
Lawrence	5	2		7		5	250	1
Lincoln	2			7		1	50	1
Linn	3			2	3		150	6
Lyon	12		1		7	1	1,000	3
Marion	2	12			7	2	100	4
Marshall	6		2		1	3	350	1
Miami	9	1		7	7		750	2
Mitchell	1			7			750	1

TABLE No. 34. Five years of Rabies in Kansas—1911 to 1915, inclusive.

COUNTIES.	Dogs infected.		Number of domestic animals destroyed.				
	Diagnosis unmis- takable.	Suspected and killed.		Sheep.	Cats.	Low value.	
Allen	10	14	4			\$500	
Anderson	3	1	1		1	125	
Atchison	2					25	
Barton	3		1				
Bourbon	2	2		42		1,000	
Brown	6	90	2	10			
Butler	3	15		8		650	
Chase	13	30			1	125	
Chautauqua	8	20	1		2		
Clay	1						
Cloud	1						
Coffey	2						
Comanche	1	1					
Cowley	1	1	1			25	
Crawford	5	15			1		
Dickinson	2						
Doniphan	1				1		
Douglas	2						
Elk	6						
Franklin	25	75					
Geary	2						
Harper	1						
Harvey	2				2	125	
Jackson	11	15	5				
Jefferson	5	5				150	
Johnson	9	15	6		1	40	
Kingman	1		1	3			
Labette	7	38					
Leavenworth	3						
Lincoln	3	2					
Linn	2	1					
Lyon	4	6					
Marion*	2	1					
Marshall	3	2	1		1	25	
Miami	6	10	9			1,000	
Mitchell	7	1	1				
Montgomery	2	6					
Morris	5				1		
Nemaha	3		1		1	25	
	4						

Osage.....	4	31	1	1	1	150
Osborne.....	2	12	20	1,700		
Ottawa.....	1					
Pottawatomie.....	12	12			1	
Republic.....	4	3	1		1	25
Rice.....	6	4				
Riley.....	7		1			
Russell.....	2				1	125
Saline.....	1					
Sedgwick.....	17	14	1	3	2	200
Shawnee.....	10	39	—		2	750
Sumner.....	11	29	4	2	12	
Wabaunsee.....	5	3			1	6
Wilson.....	3	4				
Woodson.....	1	4				
Wyandotte.....	12	20				
Total.....	269	524	28	87	34	\$6,765

TABLE No. 34--CONCLUDED.

COUNTIES.	Infections and treatments in human cases.										Number of positive laboratory findings of negative bodies.
	Number of persons bitten by suspected animals.	Phenol.	Anti-Bell Memorial, (free).	Expense.	Deaths.	Cost of illness and treatments.	Cost of funerals.				
Allen	16		1	\$850	2	\$500	\$300	8			
Anderson	1			50	1		150	3			
Atchison								1			
Barton	1							2			
Bourbon	2		2	50				4			
Brown	6		2	500				2			
Butler	2		2	200				2			
Chase	4		1	230				3			
Chautauque	2			80							
Clay											
Cloud	2		1	280				1			
Coffey											
Comanche	1		1	150				1			
Cowley	4			150				1			
Crawford	7	1	4					1			
Dickinson	1							1			
Doniphan	2			350				2			
Douglas	4			200				2			
Elk	3			100				10			
Franklin	4			200				2			
Geary	1										
Harper	1			50							
Harvey	2			100							
Jackson	11		8	650				1			
Jefferson	3			100				2			
Johnson	2		2	100				1			
Kingman	1			50							
Labette	13		1	550	2		300	7			
Leavenworth	5		5	250							
Lincoln	2	2	1	50				1			
Linn	3			150							
Lyon	12			1,000				3			
Marion	2		1	100				2			
Marshall	5		4	350				4			
Miami	9	1	1	350	2		300	1			
Mitchell	1				1		150				

Montgomery.....	10			?	6	3			450	2			300	1
Morris.....	3			?		2			100					2
Nemaha.....	5			?		5			250					2
Osage.....	17	4		?	10	2			600	2				4
Osborne.....														1
Ottawa.....														1
Pottawatomie.....	6			?	5				250					11
Republic.....	3	1												3
Rice.....	3			?		3			150					1
Riley.....	2			?	1				50					7
Russell.....	1			?		1			50					1
Saline.....	1													
Sedgwick.....	16		10	6	14			1	850	1			150	5
Shawnee.....	†56		2	?	47	9			2,450	2			300	7
Sumner.....	9	3			1			4	650	2			300	2
Wabaunsee.....	3	1				1			50					2
Wilson.....	4				2	2			200					
Woodson.....	1	1												
Wyandotte.....	35				7	28			500					3
Total.....	311	14	46	40	160	†92	15	6	\$13,910	17	\$500	\$2,250		135

* Two persons of Marlon county visiting in Reno county, when bitten.

† Twenty-six cases in Shawnee county came from other parts of the state for treatment; address not given.

‡ In addition seventeen other persons treated at Rosedale, whose addresses are not given; making total persons bitten, 328; given anti-rabic treatments, 290.

TABLE No. 36. Bacteriological examinations and estimated values by counties. By Laboratory State Board of Health, 1914 and 1915—CONTINUED.

COUNTIES.	Sputum examinations.				Diphtheria cultures.				Widal's.				Neisserian and rabies.				Total values 1914 and 1915.
	1914.		1915.		1914.		1915.		1914.		1915.		1914.		1915.		
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	
Harper.....	20	\$20	12	\$12	3	\$6	2	\$4									\$42
Harvey.....	11	11	3	3	4	8	2	4									26
Haskell.....							1	2		\$3							10
Hodgeman.....	6	6	2	\$2	3	6											17
Jackson.....	22	22	20	20	18	36	16	32	14	28	5	\$10			†1	\$3	154
Jefferson.....	18	18	33	33	15	30	24	48	1	2	9	18			†2	6	149
Jewell.....	24	24	10	10	6	12	2	4			7	14					64
Johnson.....	15	15	16	16			16	32			3	6			†1	3	72
Kearny.....	6	6	1	1	4	8	1	2									20
Kingman.....	20	20	24	24	6	12	8	16	12	24	12	24		*1	†1	\$3	121
Kiowa.....	7	7	8	8			12	24	1	2	1	2					43
Labette.....	36	36	52	52	90	180	63	126	8	16	6	12					422
Lane.....	6	6	1	1	2	4	1	2									18
Leavenworth.....	23	23	17	17	21	42	27	54	33	66	25	50		*2		2	254
Lincoln.....	8	8	4	4	1	2	3	6									20
Linn.....	20	20	26	26	69	138	112	224	16	32	24	48					488
Logan.....	6	6	1	1													7
Lyon.....	53	53	40	40	20	40	29	58	25	50	26	52			*21	†1	317
Marion.....	36	36	28	28	8	16	23	56	6	12	1	2		*7	†1	10	160
Marshall.....	37	37	26	26	16	32	13	26	5	10	2	4					135
McPherson.....	48	48	40	40	72	144	107	214			14	28		*1		1	475
Meade.....	3	3	4	4													7
Miami.....	35	35	10	10					8	16	33	66					127
Mitchell.....	33	33	19	19	28	56	7	14									122
Montgomery.....	28	28	32	32	19	38	17	34	5	10	2	4		*3		3	149
Morris.....	49	49	47	47	33	66	14	28	6	12					*1		203
Morton.....	4	4															4
Nemaha.....	24	24	25	25	13	26	1	2	17	34	10	20		*1		1	132
Neosho.....	35	35	32	32	2	4	3	6	12	24							101
Ness.....	3	3	5	5	2	4	1	2									14
Norton.....	10	10	52	52	1	2	19	38	2	4							106
Osage.....	34	34	28	28	58	116	6	12	12	24	5	10		*2	†2	8	238
Osborne.....	16	16	7	7			4	8			4	8					39
Ottawa.....	17	17	23	23			7	14									68
Pawnee.....	8	8			2	4											12
Phillips.....	18	18	14	14	6	12	237	474			3	6					524
Pottawatomie.....	9	9	6	6	4	8	4	8	1	2							33
Pratt.....	13	13	21	21	6	12	26	52			1	2					100

TABLE No. 36. Bacteriological examinations and estimated values by counties. By Laboratory State Board of Health, 1914 and 1915—CONCLUDED.

COUNTIES.	Sputum examinations.				Diphtheria cultures.				Widals.				Neisserian and rabies.				Total values 1914 and 1915.
	1914.		1915.		1914.		1915.		1914.		1915.		1914.		1915.		
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	
Rawlins.....	6	\$6	1	\$1	4	\$8	32	\$64	32	\$64	41	\$82	*7	†1	*2	\$2	\$15
Reno.....	45	45	45	45	43	86	12	24	6	12	..	..	*1	..	*2	2	398
Republic.....	22	22	18	18	8	16	16	32	2	4	..	..	..	..	..	..	95
Rice.....	8	8	2	2	1	2	12	24	6	12	..	..	..	..	..	..	48
Riley.....	12	12	12	12	4	8	12	24	6	12	..	..	..	..	..	..	68
Rooks.....	9	9	16	16	4	8	7	14	..	..	1	2	..	..	..	..	49
Rush.....	8	8	6	6	5	10	..	..	..	..	2	4	..	..	..	..	28
Russell.....	22	22	34	34	4	8	18	36	2	4	..	..	..	..	*1	1	105
Saline.....	27	27	24	24	9	18	24	48	3	6	..	..	..	..	..	..	123
Scott.....	2	2	1	1	..	..	6	12	..	..	..	..	*1	..	..	..	4
Sedgwick.....	16	16	18	18	9	18	..	..	1	2	3	5	..	..	..	..	72
Seward.....	8	8	8	8	..	..	201	402	17	34	24	48	*12	..	†1	3	16
Shawnee.....	144	144	148	148	74	148	7	14	..	..	..	..	..	..	..	..	939
Sheridan.....	3	3	4	4	..	..	..	..	..	..	..	..	..	..	..	..	21
Sherman.....	7	7	3	3	..	..	..	..	..	..	..	..	..	..	..	..	10
Smith.....	..	..	8	8	..	..	..	..	..	..	..	..	..	..	..	..	8
Stafford.....	9	9	8	8	2	4	2	4	1	2	..	..	..	..	..	..	27
Stanton.....	8	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8
Stevens.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sumner.....	76	76	104	104	143	286	205	410	35	70	25	50	*7	..	*2	2	1,005
Thomas.....	4	4	10	10	4	8	21	42	..	..	..	..	..	..	..	..	64
Trego.....	5	5	1	1	..	..	..	..	..	..	..	..	..	..	..	..	6
Wabaunsee.....	22	22	23	23	12	24	5	10	7	14	16	32	..	..	..	..	125
Wallace.....	5	5	4	4	..	..	13	26	..	..	..	..	..	..	..	..	35
Washington.....	20	20	14	14	..	..	2	4	..	..	1	2	..	..	..	..	40
Wichita.....	..	..	..	..	..	..	1	2	..	..	1	2	..	..	..	..	4
Wilson.....	24	24	49	49	18	36	280	560	4	8	16	32	..	..	*2	2	711
Woodson.....	12	12	13	13	..	..	5	10	..	..	..	..	..	..	..	..	35
Wyandotte.....	15	15	13	13	..	..	1	2	9	18	5	10	*1	..	..	..	59
Totals.....	2,071	..	1,986	..	1,274	..	2,347	..	447	..	427	..	*71	†8	*39	†17	\$13,232

*Neisserian. †Rabies.

CHILD HYGIENE NUMBER

BULLETIN OF
THE KANSAS STATE BOARD OF HEALTH
B. J. CAUMBRIDGE, M. D., Secretary.
DIVISION OF CHILD HYGIENE

KANSAS STATE PRINTING PLANT.

W. R. SMITH, State Printer.

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THE RIGHT KIND OF PREPAREDNESS.

(375)

INFANT MORTALITY ALL OVER THE WORLD.

A baby dies in the civilized world every ten seconds.

Most of these deaths might have been prevented had the mothers only known how to take proper care of their babies.

Out of 1000 births, the following number of children will die in their first year in the various countries forming the civilized world (compiled from the average for ten years) :

Country.	Deaths under 1 year to 1000 births.	Deaths under 1 year, actual number.
Chili	326	30,303
Russia (European)	263	1,298,245
Austria	222	200,553
Roumania	218	49,589
Hungary	212	154,100
German Empire	197	374,153
Jamaica	181	6,414
Ceylon	179	23,255
Spain	170	106,649
Italy	161	83,970
Belgium	154	28,499
Japan	153	220,013
Servia	153	16,268
United States	149.4	280,000
France	148	115,378
Bulgaria	144	23,757
Canada	140	8,200
Great Britain and Ireland	139	147,660
Switzerland	138	11,441
Holland	138	19,209
Finland	133	10,877
Western Australia	127	756
Denmark	124	8,089
New South Wales	99	3,745
Victoria	98	3,299
Sweden	96	11,917
Queensland	94	1,120
Tasmania	93	433
South Australia	93	608
Norway	86	4,231
New Zealand	76	2,233
Grand total		3,243,958

PRINCIPLES OF THE REDUCTION OF INFANT MORTALITY.

The thousands of babies that are born annually, only to sicken and die, represent an appalling economic and social waste. An analysis of the causes of these infant deaths demonstrates that by far the major portion of them are due to improper feeding and care; in other words, because the mothers do not know how to take care of their babies. Of those who die from other causes than improper feeding and care, a large percentage of the deaths might have been prevented by wider knowledge and application of the laws of heredity and eugenics.

Thus the problem of the prevention of infant mortality assumes a two-fold aspect—proper care of children born; and second, measures providing for a better generation to be born.

But the proper care of baby's bottle and the education of mothers alone will not solve the problems of infant mortality nor of mothers' and children's welfare. For in order to preserve properly the lives and health of mothers and children it is necessary to deal with every condition which affects the health, happiness and the wellbeing of the family, and, indeed, the entire community.

Thus, housing, sanitation, sewage, disposal of garbage and wastes, food and water supply, communicable diseases, employment of workers, wages and living conditions—in a word, the whole subject of infant mortality and the health of men, women and children—may be summed up in the prevention of disease-breeding conditions.

Every investigation of infant mortality has disclosed a close relationship between infant mortality and bad housing conditions, and poor food; in other words, conditions likely to be associated with poverty. But even in the very poorest districts, where housing and sanitary conditions are exceedingly bad, many instances in which parents have reared large families without a single death are to be found, while side by side with these in the same neighborhood, or even in the same house, are to be found other families in which numerous deaths of infants have occurred. Logically such instances would seem to be the result, not of poverty or the sanitary condition of the home, or even of the physical strength of the parents, but of the amount of intelligent attention and care which the mother bestows upon her baby. In such cases it is not only the resistance of the child, but the resistance of the mother, that determines the extent of the influence of the other factors on the children's health and lives.

The influence of the character and intelligence of the mother on the rate of infant mortality is exceedingly difficult to measure statistically. It is not to be expected, therefore, in the nature of the case, that the relationship between the character and intelligence of the mother and the rate of infant mortality can be so accurately measured as to show the extent of the influence of the former on the latter.

However, among 2326 infants investigated in New York, whose mothers were rated as unsatisfactory in general intelligence, the rate of

mortality was 126 deaths per 1000 births, as compared with a rate of 100 per 1000 infants whose mothers were rated as satisfactory in this respect.

The intelligence of the mother, including, as it does, the measure of vitality and ability she endows them with at birth, and the kind of care she bestows on them subsequently, would seem to be a highly important factor in the problem of infant mortality which up to the present has been overlooked or has not been accorded the importance to which it would seem to be entitled. Therefore it would seem that, in addition to the multitudinous agencies and influences which are at work to lower the rates of morbidity and mortality, especial attention should be directed to the all-important phase of intelligent motherhood and an efficient parenthood.

On the negative side, this would, of course, tend to eliminate parenthood of the unfit. It is a sorry sort of mawkish sentimentality that refuses to interfere with the producing every year of an unnecessary number of the physically or mentally defective.

Parenthood is the greatest of all human responsibilities. Parenthood ought to be the privilege of the fit. To permit parenthood to the defective and to those who will transmit serious diseases and defects to their children is worse than stupid; it is criminal.

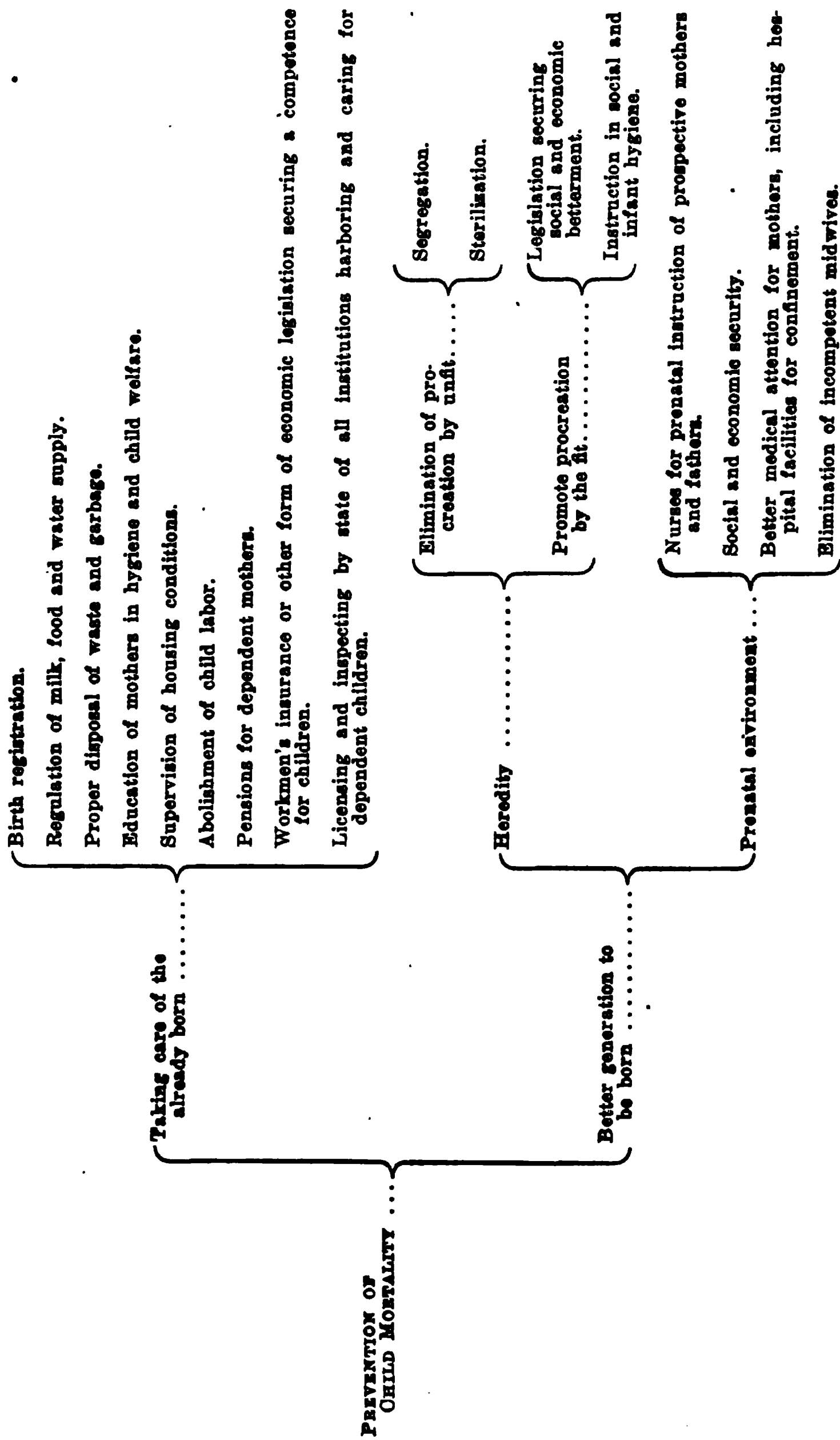
Besides, the child has his right in the matter. He has the right to intelligent consideration before he is born—even before he is conceived. He has a right to be born with a good mind in a sound body. In other words, every child has a right to be born into aristocracy of health and intelligence.

The prevention of procreation by the unfit is, however, only part of the problem. There should be, in addition, an increase of reproduction by the eminently fit. A declining birth rate is not the menace that it is sometimes thought to be, so long as there is a corresponding or even greater decline of the death rate. But the type of the birth rate that is declining is of paramount importance.

A proper discussion of the prevailing theories as to this decline in the birth rate among the fittest would lead afield in the sciences of biology, sociology and economics which is quite outside the purpose of the present article. There does seem, however, to be one pertinent factor which might be taken into consideration, and which is possible of realization even within the present generation—and that is education for parenthood.

To say that our educational system needs such revision as would make it more nearly conform to the actual requirements of everyday life is merely to repeat a statement which has been made many time before. Yet there can be little doubt but that one of the most effective means of lowering the death rate of children, as well as the general rate for all ages, would be the education of children and of young men and young women in the fundamentals of successful parenthood and in the hygiene of daily living.

Infant mortality is said to be the most sensitive index we possess to a civilization, and the fundamentals of the reduction of infant mortality are as large and as inclusive as is our civilization itself.



INFANT MORTALITY IN KANSAS.

Last year 2598 babies under one year of age died in Kansas, about one in every fourteen of the number born; 2665 died in 1914, 3112 in 1913, and 2904 in 1912.

Most of these baby deaths might have been prevented.

(For a complete report on Infant Mortality in Kansas, see the second biennial report of the Division of Vital Statistics, State Board of Health.)

The Kansas state registrar reports that there are about 40,000 babies born in the state each year. That is a definite piece of information, but not definite enough. If a banker tells you that he has 40,000 coins it does not mean much. He may have pennies, dimes, dollars, and hundred-dollar gold-pieces. So with the children. Some babies may be perfectly splendid types of babies, like hundred-dollar gold-pieces, giving great promise. Others may be like the plugged nickels in the banker's drawer. Such children whose health and ability were blighted before they were born will detract from the general health and standing of a community, and are one of the factors which keep up a high mortality rate. They are a liability rather than an asset.

But given healthy babies, the way to prevent infant mortality is by giving them intelligent care. And the fundamentals of intelligent care for babies may be summed up in the words: *Fare, care, and air.*

However, no matter how intelligently a mother may care for her baby in the home, she is seriously handicapped if the city and state do not do their part. It is of no avail to prepare the baby's milk according to formula if the milk supply has not been properly safeguarded; and it is impossible to keep children well when they are exposed to contagious diseases because of improper carrying out of quarantine regulations.

It is also the province of the city and state to keep accurate record of the births, the reportable diseases and the deaths of these little citizens, and to make and enforce laws protecting their health and lives.

The Division of Child Hygiene emphasizes that:

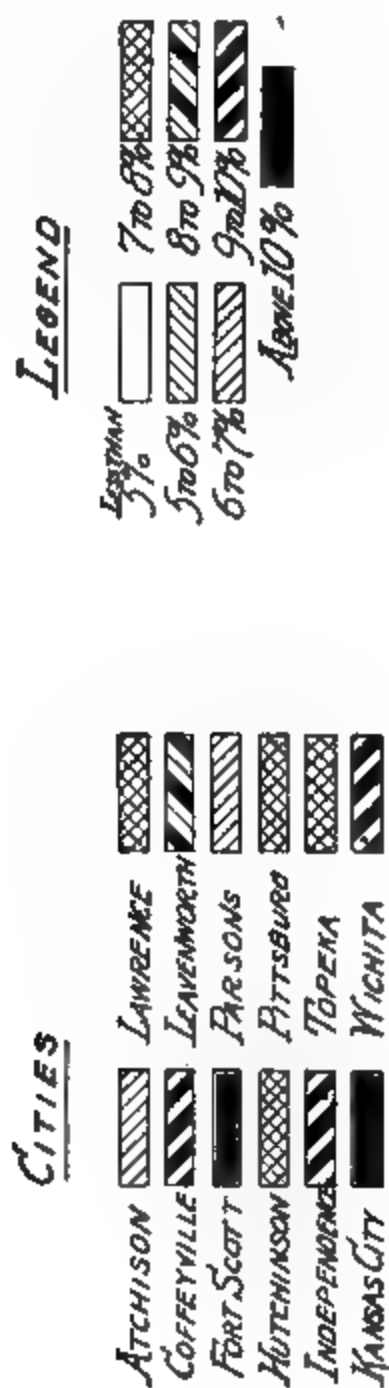
If a child is to be born, he has a right to be born well; and to be endowed with a good mind in a sound body.

He has a right to be cared for properly.

In other words, every child is entitled to a square deal.

With the continued coöperation and loyal support by money and effort, it is possible to materialize our slogan: **A SQUARE DEAL FOR EVERY KANSAS BABY.**

HELP MAKE THE MAP WHITE.



INFANT MORTALITY MAP FOR KANSAS, 1915.

KANSAS' FINEST CROP.

REGISTRATION OF BIRTHS.

The registration of a child's birth forms a legal record that may be of the greatest importance. It establishes the date of birth and the child's parentage. It may be required to establish the child's age for attendance at public schools, or for permission to work in states where restrictions are placed upon child labor; to show in courts of law whether a girl has reached the age of consent, or where individuals have attained the age when they may marry without the parent's permission; to establish age in connection with the granting of pensions, military and jury duty, and voting. It may be important in connection with the bequeathing and inheritance of property or to furnish acceptable evidence of genealogy, and in fact may be important and useful in possible events too numerous to mention.

Without official birth records the rights of the individual will be jeopardized frequently, legal procedure will often be complicated unnecessarily, child-labor laws and school attendance will be impossible of enforcement, there will be difficulty in determining whether those desiring to cast the ballot have reached the voting age, and numerous other difficulties will arise.

Then, too, birth records show the additions made to the population by natural increase, and the elements of the population supplying this increase. Registration of births shows where the babies are, and makes possible such observance and protection as the health department desires to extend. It also makes possible for health authorities to see that the babies and their mothers have proper care and attention.

Without complete registration of births the infant mortality rate may be apparently very much higher than it really is. Deaths must be reported before a burial certificate may be obtained. Consequently, if all the births are not reported the death rate is bound to be proportionately higher.

American fathers and mothers may properly be expected to be more zealous in the care and welfare of their babies than in that of their cattle, horses and dogs, even though the animals be of pedigreed stock. It is the custom to register the births of blooded animals, that their parentage may be authenticated by carefully preserved records, and not a mere matter of neighborhood memory or hearsay.

There are many more reasons why a baby's parentage and rights should be safeguarded and protected by an official registration of its birth than there are for recording the birth and parentage of a colt or calf. The official registration of its birth, showing parentage and when and where born, is the right of every child.

The new-born baby being helpless in the matter, the state of Kansas has placed the duty and responsibility of the registration of the birth upon the attending physician. Under the circumstances, no physician has performed his whole duty either to the child or the parents until he has registered a properly completed birth certificate. In fact, the im-

portance of having his birth properly registered may be of so great importance to the child in after years that a physician who neglects his patient's interest in this instance may in justice be held accountable to a court of law in action for damages.

The information concerning each child required to be registered are the name of the child, its sex, the date and place of birth, and the names and residence of the parents. Other items of information concerning births which are of great value and serve various purposes are the age, color, nativity and occupation of the parents, and whether a child is a single birth, a twin, or a triplet. These facts usually are required to be stated.

The items registered serve two principal purposes. They serve, first, to identify the child and to establish its age and parentage, and, second, to furnish statistical data which when compiled and analyzed gives useful information regarding the rate at which the population is reproducing itself and the relative rates of increase of the various elements of the population.

Accuracy of birth records and completeness of registration depend upon the attending physicians, sometimes midwives, and, in the absence of either of these, upon the parents.

In Kansas births are required to be registered with an official appointed for the purpose and known as a local registrar. Customarily it is the same official with whom deaths are registered. The certificate is required to be registered within ten days after the birth of the child. The failure to file such a certificate is a neglect of the interests of both the child and the mother, and is punishable by a fine.

IMPORTANT NOTICE.

Beginning April 15, 1916, a copy of a useful little pamphlet on "The Care of the Baby," prepared by the United States Public Health Service, has been sent to every mother whose child's birth was reported with the state registrar.

If there has been a baby born recently in your family, or in the family of your friends, and who did not receive a copy of the pamphlet, "The Care of the Baby," please notify S. J. Crumbine, M. D., Collaborating Epidemiologist for Kansas, U. S. Public Health Service, Topeka, Kan.

INTERCITY CONTEST.

During the year 1915-'16 the Department of Child Welfare, University Extension Division, University of Kansas, promoted a contest among the second-class cities of Kansas to determine which of these was the most nearly ideal place in which to rear children. About forty of these cities took up the movement actively, following the plan outlined for them by the department. Very notable progress was made by thirty-four of the contestants, and at the close of the year fifteen of them made such positive claims for first place that a committee of judges had to be sent to spend a day in each to determine winners.

This year the third-class cities are invited to engage also in this contest. And while only one or two of the cities entered may receive prizes, all those who actively enter this movement will receive returns of far greater worth than the prize can be.

If you are interested in making your town the best place in Kansas in which to rear children, and consequently a most delightful place for grown-ups, you can do no better than to interest your townspeople in the Intercity Contest plan and enter your city.

The Division of Child Hygiene heartily indorses the Intercity Contest idea. During the year the director has visited personally many of the contesting cities, and others not contesting, and, frankly—there's a difference.

Address all requests for information regarding the Intercity Contest to
DEPARTMENT OF CHILD WELFARE, UNIVERSITY EXTENSION DIVISION, LAWRENCE, KAN.

INTERCOUNTY HEALTH CONTEST.

A typhoid patient improperly cared for may infect the water supply of an entire community. One child unquarantined for whooping cough, measles or diphtheria may close an entire school system. Each neglected tuberculosis patient can infect a majority of the healthy people coming in contact with him. Therefore health is no longer an individual affair which each person or each family may settle for themselves, but health is a vital, urgent public and social problem.

There is not a county or a community in Kansas that knows how good nor how bad its health conditions are until it has taken stock of itself. The merchant's goods, the factory, the government—everything—must submit to the test of merit. To test your county, search out its weaknesses, admit any unpleasant facts about conditions, and set about to remedy them.

The county which can show by its records that it is the healthiest county in the state for 1916 will be awarded the Governor's Trophy, a handsome silver loving cup. The winning of this prize is more than a

mere matter of pride. There is also a commercial value attached to the proving that one lives in the healthiest county.

Better health means increased vigor. Increased vigor means increased production and longer life. They, in turn, mean increased prosperity for the county and every person living in it. Strangers, too, will want to come to live in the healthiest county in the state, and so increase the population and bring additional wealth.

The counties that lose this trophy will also win. No effort to improve living conditions is ever unrewarded, so the results attained will be sheer gain.

GOVERNOR'S TROPHY

TO BE GIVEN TO THE HEALTHIEST COUNTY IN THE
STATE OF KANSAS FOR 1914.

DO YOU LIVE

IN THE HEALTHIEST COUNTY IN THE STATE OF KANSAS?
OF COURSE YOU DO. BUT CAN YOU PROVE IT?
THERE IS NO WEALTH WITHOUT HEALTH.

METHODS OF COMPUTING THE RATING OF COUNTIES.

In computing the rating of counties, judges will take into consideration both the health and sanitation record of the county and the effort that is put forth by the county to improve its condition in this respect.

The things which will count are:

1. Number and rating of standardized schools.
Junior health officers in the schools.
School nurses.
Physical inspection of school children.
2. Full or part-time county health officer.
Promptness and completeness of his reports to the State Board of Health.
The infant mortality, morbidity and adult mortality rates, and the presence or absence of epidemics of communicable diseases as shown by these records.
3. Public-health nurses.
Infant-welfare stations.
4. Absence of child labor.
5. The county medical society.
The promptness of the doctors in reporting births and communicable diseases as required by law.
The absence of ophthalmia neonatorum and preventable epidemics of communicable diseases.
6. City and rural churches and community clubs.
The sanitary condition of churches, and the interest taken by churches in health and sanitation in their respective neighborhoods.
The Child Hygiene Sunday, and the activity for child hygiene in the Sunday school.
The community forum or other community organization and its activities in health and sanitation.
7. The women's clubs, farmers' clubs and other organizations.
Child-hygiene programs and health and sanitation activities.
Study classes in child hygiene.
Baby days and other activities for children.
8. County commissioners.
The amount appropriated per capita for public health.
County hospital and other agencies for preventing disease and improving conditions of public health.
9. Pure food and drugs inspection and regulation of milk supply.
Sanitation of food and drug establishments.
10. Public health interest and activities.

The Intercounty Health Contest for 1916 began in March and will end at the close of the year.

As a part of the work, a public-health week will be conducted in each county entered. This week will include public-health meetings, with good speakers, distribution of literature, examinations of babies, and an extensive newspaper public-health campaign.

At this writing seven counties have entered the contest in earnest. It is not too late for others to join.

Address all inquiries to DIVISION OF CHILD HYGIENE, STATE BOARD OF HEALTH, TOPEKA, KAN.

The city employs policemen to guard the citizens' safety—

And firemen to protect their property—

Why not public-health nurses to save their health and lives?

PUBLIC HEALTH DOCTORS AND NURSES.

"An epidemic prevented is better than two epidemics cured" is the modern paraphrasing of an old motto. This also is the spirit of the new awakening in public-health matters, which is crystallizing itself into a demand on the part of all citizens that they and their families be protected from communicable diseases and that they be accorded the very best of opportunities for life, health and happiness.

The protection of the public health has grown to such proportions as to demand the entire time of men and women who are especially qualified to serve in this capacity. Thus a new branch of preventive medicine has been evolved, requiring public-health nurses and public-health physicians and officers.

The public-health nurse is the first step in efficient public-health work. Especially is this true in regard to work for children. A nurse is necessary to the proper conduct of a child-hygiene station, and her training is indispensable in the education of mothers. Nurses giving prenatal instructions to mothers have made wonderful records in saving mothers' and babies' lives and great improvement in the health of both.

Public-health nurses are invaluable in obtaining thorough physical inspection of school children, in attending school clinics, preventing outbreaks of disease among school children and for follow-up work in the home.

Public-health nurses are employed by city commissioners and departments of health to investigate and prevent the spread of epidemics, to care for the sick and to teach hygiene.

Insurance companies employ public-health nurses to visit and care for their sick policyholders. Industrial companies employing a great many men and women in greater numbers each year are engaging public-health nurses to look after the health and welfare of particularly their women employees.

Everywhere city governments, departments of health, school boards, philanthropic and civic societies are becoming aware of the value of the services of a public-health nurse in bettering health conditions. As a result, the demand for capable and trained public-health nurses far exceeds the supply. And public-health nursing to-day offers one of the most promising fields for nurses who are interested in preventive medicine and public-health problems.

The trained public-health physician is no less important than the public-health nurse. It has been the custom to employ as city and county health officers physicians whose principal duty it was to effect quarantine for contagious diseases. The men employed have usually been busy physicians who have done the public-health work besides their regular practices, for a very small yearly stipend.

While it is important to quarantine communicable diseases, yet everyone must admit it would be cheaper and better to *prevent* them. Especially is this true in reference to communicable diseases of children.

It is much easier to keep a baby well than it is to cure him when he is sick.

Consequently, the more quarantining of communicable diseases when they appear is many times more expensive, and infinitely less efficient, than searching out the *causes* of epidemic diseases and preventing them altogether.

To do the latter work effectively requires the services of a trained public-health physician devoting his whole time exclusively to that end. One such physician could well be employed in every county as a good beginning.

Curing a patient after he is sick is equivalent to locking the barn after the horse is stolen. Modern police protection is not for the purpose of detecting and punishing crime, but its highest efficiency and greatest service consists in *preventing crime*.

So it should be with the medical profession. Instead of devoting their best efforts to the detecting and curing of sickness, doctors should be *preventing disease*. And the time will come, perhaps sooner than is suspected, when every doctor will be a public-health physician and will be remunerated according as he is efficient in keeping his patients well.

When the medical profession shall be put on a basis of public service first, no one doubts but that doctors will be very much better remunerated for their services and that the public will receive better doctoring *for less money*.

CHILD-HYGIENE STATIONS.

"Why was I allowed to bury my first baby and nearly lose my second before I was taught even the first principle of child hygiene?" wrote an indignant mother to the State Board of Health.

Why, indeed, should a woman go through an elementary school, high school and college, and not be taught how properly to care for a baby? For how little all education means to a mother when her baby dies because of ignorance!

The education of girls and boys for motherhood and fatherhood is a matter which is challenging the attention of educators, and fortunately there is a steady progress toward eliminating purely cultural subjects in the grades and high schools and adding studies in the science of health and daily right living.

But this change comes too late to help the present mother with her baby, except such help as she can get from her older children who are in school. For that reason child-hygiene stations need to be established in every community. At these stations mothers can receive competent help and expert advice as to their babies' clothing, sleep, outing, habits, preparation of food and such advice as does not ordinarily come within the province of the family doctor.

Germany now has 555 such welfare stations in its localities. England has over 200, and there are 77 in Belgium. New York, outside of New York city, has 32. Kansas has less than a half dozen.

INFANT-WELFARE CAMPAIGNS.

The following suggestions are offered for a local campaign to arouse the popular interest which will lead to the establishment of child-hygiene stations. Public-health nurses are the foundation of all public-health

work, and are especially essential to the success of any infant-welfare campaign. Where such an organization has already been established the work for this campaign may well be turned over to them and left to their direction, with the coöperation of all other existing agencies. Where there is no public-health nursing association nor provision made for a public-health nurse, such provision should be made as the first step in the preliminary campaign.

The assistance and the coöperation of all agencies naturally interested or previously engaged in child-welfare work should be obtained. These will include:

- (a) Municipal officers: Mayor, city commissioners, and health officer and other officials.
- (b) Principals and teachers in public and private schools, and school officials.
- (c) Religious organizations and philanthropic agencies.
- (d) Public-health nursing association and all other organizations interested in public-health work and infant welfare.

A meeting should be called of members from these various agencies and a representative committee selected.

EXECUTIVE COMMITTEE. This committee should have general oversight and direction over the baby-saving campaign, and should appoint and receive reports from subcommittees on—

- (a) Publicity.
- (b) Finance.
- (c) Infant-welfare station.

PUBLICITY COMMITTEE. This committee should make a survey of local conditions affecting infant welfare and obtain data showing the necessity for infant-welfare work; also arouse public sentiment for the establishment and maintenance of infant-welfare stations. The following suggestions are offered for the work of this committee:

- (a) The compilation of local vital statistics and their comparison with those of other communities.
- (b) The preparation of two spot maps of the city or town—one showing the location of the births, the other of the deaths of infants during the past year.
- (c) An investigation of the living and housing conditions where the infant death rate is highest.
- (d) A study and report on the condition of the local milk supply.
- (e) Arrangements for lectures and illustrated talks before civic bodies, women's clubs, schools, churches and societies.

It is advisable to have each of the newspapers of the community represented on this committee, for a newspaper man can best write up material for the newspapers and arrange for its publication.

FINANCE COMMITTEE. The finance committee should be composed of influential citizens able successfully to appeal to the community for funds to carry on the infant-welfare work. This is a popular subject, and it is not a very difficult matter to raise the necessary amount of money. Personal appeals by members of this committee may be sufficient to obtain the required sum. Other means of raising money will suggest themselves to an active committee.

The maintenance of an infant-welfare station and public-health nurse

by private subscription should not be necessary for more than one season. So soon as the value of the work is demonstrated it should be taken over by the city and funds provided in the same manner as for other city activities.

WELFARE-STATION COMMITTEE. This committee should work with the State Board of Health and the local health officer. It should be responsible for the location and establishment of the station. It should confer with the local medical society for the services of volunteer physicians and obtain the services of an experienced infant-welfare nurse.

LOCATION.

The station should be opened near the center of the district which it is to serve. A study of the location of the infant deaths in the city will show where the station is most needed. Wherever it is possible the use of a public schoolroom should be obtained for the station. This saves a considerable amount in rent and maintenance, and, being conducted in the public schoolhouse, it lifts the whole proposition out of the field of charity into that of a public utility, where it properly belongs. Then, too, a child-hygiene station in a schoolhouse will attract mothers who could not or would not accept charity in any form, but who need instruction in regard to the care of their babies just as much as do the indigent mothers.

EQUIPMENT.

The equipment for the station should be exceedingly simple. The minimum requirements are a good pair of scales, a set of records, table and chairs. The equipment may include a complete infant's layette, utensils for modifying milk, nursery supplies, and other material for teaching child hygiene.

DISPENSING OF MILK.

In the event it is decided to dispense milk, an ice box and extra table will be required. Milk which is known to be satisfactory should be bought by the station management and sold to the mothers. The dispensing of milk adds a considerable financial burden to the maintenance of the station, as it necessitates that the station be opened every day. It is not recommended except in cities having a large poor population.

MANAGEMENT OF STATION.

A nurse should be in attendance at the station not less than one afternoon a week. In thickly populated districts, or where the attendance at the clinic is so large that it can not be taken care of well in one afternoon, the station should be open as often as is necessary to take care of all the babies.

A physician should be in attendance at frequent intervals or on call. Babies who are sick are referred by him to the family doctor, and mothers of sick babies are instructed in their care.

Perhaps the most important work for the physician is the thorough examination of all children in attendance one or more times during the year. American Medical Association score cards for the examination are furnished free by the State Board of Health. A handsome certificate is issued to each child so examined. By this method defects and abnormalities existing in children are discovered by the examiner. Usually these are easily remedied if attended to at once, but some of them are attended with serious consequences if neglected.

VISITING NURSE.

The home visiting by the nurse is a most profitable part of the work of the infant-welfare station. This nurse should be supplied with daily or weekly reports of births in the community by the local registrar or the health officer. She should at once communicate with the physician in attendance and offer her services, or if there is no physician in attendance she should visit the home and instruct the mother in the care of the baby. She should also ascertain whether or not the silver-nitrate solution has been dropped in the infant's eyes after birth to prevent an infection.

The nurse also visits and advises expectant mothers. She is able to impart much valuable information in reference to daily hygiene, and such service is a great comfort, especially to the young and inexperienced women.

One nurse devoting all her time to this work can care for an average of 100 patients a month, visiting them every ten days, taking blood pressure and making urinalyses. Where such work has been carried out the deaths of mothers and babies has been reduced to zero, and the babies born were healthier and better in every respect than those born of like parents without intelligent supervision. Physicians are glad to have these public-health nurses.

LITERATURE FOR DISTRIBUTION.

Literature on the care of milk and the care of the baby is distributed to the mothers at these stations. Pamphlets on the feeding and care of infants have been prepared by the Division of Child Hygiene, and can be obtained free on request.

It is difficult to do much classroom teaching in infant-welfare stations, because of the disturbing presence of the babies. However, it may be possible for the nurse to arrange some simple demonstration for the mothers and to give them literature covering the subject of the talk. Sometimes an assistant may be obtained to look after the babies for the afternoon while the mothers are receiving their lessons. Outlines for such talks are given in this manual.

COST OF OPERATION.

The monthly cost of operating a child-hygiene station depends on many conditions. The principal expenses are:

- (1) Salary of the nurse.
- (2) Equipment.
- (3) Rent of station.
- (4) Supplies.

As would be expected, a large enrollment decreases the cost per child. The number of babies which one nurse can care for is determined by the situation of the station, depending upon whether the station draws from a thickly populated neighborhood or widespread area. In the poorer districts the registration is usually much larger than in those where the families are in better financial condition.

An analysis of the typical budgets of child-hygiene stations shows that where the stations were conducted in a schoolhouse the cost was less than fifty cents per month per child. Where rent was paid, and where a nurse and physician both were provided, this was increased to a little over a dollar per month.

State of Kansas

DEPARTMENT OF THE STATE BOARD OF HEALTH
DIVISION OF CHILD HYGIENE

Baby Certificate for 191_____

THIS IS TO CERTIFY. That _____
has been examined according to the Score Card of the

American Medical Association

On _____ day of _____ and is hereby awarded the

Grade _____ Certified Baby Score _____

E. Grumbine
Secretary State Board of Health.

Lynn Allen Williams
Chief Division of Child Hygiene.

EX-10-1006

BABY CERTIFICATE.

CERTIFIED BABIES.

Certified milk and certified standard goods are well known, but certified babies are something new. Every mother wants her baby to be a Grade A certified baby, and if he is not she wants to know how to make him one.

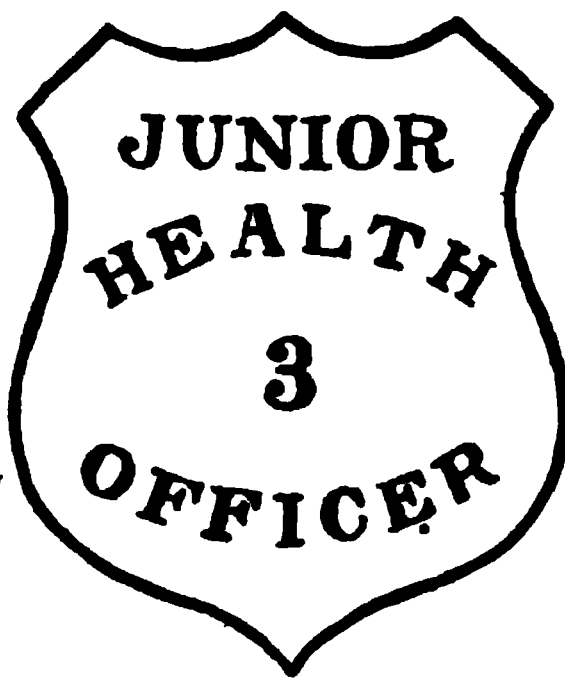
The Division of Child Hygiene is making it possible for every baby in Kansas to have a thorough physical and mental examination and a certificate. Score cards which were prepared by the American Medical Association are furnished free to all physicians. To every baby who is examined according to this score card a certificate bearing the seal of the State Board of Health will be issued.

Cities, clubs, churches or other organizations desiring to conduct baby examinations on a large scale also will be furnished sufficient score cards and certificates free, provided the examination is free to all babies and no admission fee is charged.

For communities who desire the benefits of a Better Baby Contest, with few or none of its disadvantages, an examination where babies are "certified" is suggested. Score cards and baby certificates and all necessary literature and plans are furnished by the Division of Child Hygiene. Out of this baby examination may develop the securing a public-health nurse or an infant-welfare station for babies, or one of the modern efficacious methods of preventing child mortality and promoting race betterment.

JUNIOR HEALTH OFFICERS.

The appointment of junior health officers in the schools has proven itself to be a public-health education method of superior merit. The children enter into the spirit of the plan with great enthusiasm, and in the discharge of their duties they gain a good conception of individual and social responsibility in personal and public hygiene.



Badge of junior health officer.

A junior health officer is elected or is appointed from the student body by the teacher, alternating a boy with a girl. A spirit of rivalry between the boys and girls stimulates interest in obtaining the best results. Ordinarily a junior health officer holds office for one week. During his term of service he wears the official badge and reports each day on the heating, ventilation, lighting and sanitation of buildings, particularly toilets, spitting on the floor, or other conditions that may menace the health of the students. He watches for markings or other defacing of buildings, so as to keep them always clean and attractive. He also reports on absentees, especially those absent because of quarantinable diseases.

Each evening the junior health officer fills in the report blank which is furnished him for the purpose, and at the end of the week he hands it to the teacher. The teacher approves the report by signing it, and mails it to the city or county health officer. In this manner the health officer is kept informed of the presence of communicable diseases, especially of school children, and is enabled to prevent what might otherwise prove to be costly epidemics.

Model junior health officer blanks and mats for printing are furnished free. Badges may be obtained in any quantity at the wholesale price of ten cents each.

School boards, superintendents of schools and others interested in the sanitation of school buildings and the health of school children are urged to consider junior health officers for their schools.

JUNIOR HEALTH OFFICER'S REPORT TO COUNTY HEALTH OFFICER.

State of.....

District No.....

County of.....

Grade.....

City of.....

Township of.....

Week ending.....

(Date.)

ABSENTEES.	Are all contagious diseases quarantined?..... Give names of sick pupils on back of blank.	DAY OF WEEK.				
		M.	T.	W.	T.	F.
	Number of pupils enrolled.....					
	Number absent because of illness.....					
	Number absent because of typhoid fever.....					
	Diphtheria.....					
	Smallpox.....					
	Chickenpox.....					
	Scarlet Fever (Scarletina).....					
	Whooping Cough.....					
	Mumps.....					
	Measles.....					
	Pinkeye.....					
	Other diseases (write names of disease).....					
DAILY SCHOOL-ROOM RECORD.	Any improper seating?.....					
	Any trading of pencils or drinking cups among pupils?.....					
	Any spitting on floors?.....					
	Any complaints of headache?.....					
	Any complaints of room too cold?.....					
	Any complaints of room too warm?.....					
	Ventilation good all day?.....					
	How many windows open to-day?.....					
	Temperature of room—3 p. m.....					
WEATHER.	Temperature of room—11 a. m.....					
	Condition of roads.....					
	Temperature outside.....					
	Rain.....					
	Snowfall—depth in inches.....					
	Cloudy.....					
	Fair.....					

SANITATION OF SCHOOL ROOM DURING WEEK.

1. Do you wash your face and hands at school, and how?.....
2. Do you use your own or a common towel?.....
3. How is dust kept down when sweeping?.....
4. How often was floor swept this week?.....
- Scrubbed?.....
5. How was furniture dusted?.....
6. How often were windows washed this week?.....
7. How is room heated? Describe heater.....
8. What would you suggest to improve any of the methods or conditions?.....
9. Do you know of any insanitary conditions in your district which require the attention of a Health Officer?.....

SANITATION OF SCHOOL YARDS DURING WEEK.

1. Where do you get drinking water?.....
Do you think the well or cistern is fixed as it should be, and if not, why?.....
2. Do you think your water container in the schoolroom is as it should be?..... Why?.....
3. Do all children have their own cups?.....
4. Are playgrounds and yards neat and orderly?.....
Have you tried to get other pupils to help you keep it so this week?.....
5. Are (boys') (girls') toilets kept clean? (Cross out the one you can not answer for.).....
6. Are vaults fly-proof?..... Do seats have covers?.....
7. What is the condition of floors and seats?.....
8. Any new marking on buildings this week?.....

(Sign here)

.....
Junior Health Officer.

Address, City.....

Street and Number.....

Report examined and approved:

.....
Teacher.

.....
Superintendent.

READ THIS CAREFULLY BEFORE FILLING OUT YOUR BLANK.

The State Board of Health desires that every school room in the state have a junior health officer.

It is suggested that junior health officers be appointed from the student body by the teacher, alternating a boy with a girl in alphabetical order, or be elected. A spirit of rivalry in service between the boys and girls will stimulate the interest in school hygiene.

Appointments should be made each Friday evening, and the newly appointed officer holds office for the following week. The junior health officer wears the badge of office for the week for which he is appointed. Badges which are broken or lost must be repaired or replaced.

The junior health officer is not expected to do the work of the janitor. He is to report on the heating, ventilation, lighting, sanitation of buildings, particularly toilets, spitting on the floor, and the prevalence of contagious diseases or other conditions that may menace the health of the students. He should pay especial attention to the general condition of things in and around the schoolhouse. Writings or markings on the desks, walls of schoolhouse or other buildings should be looked for each day. If these things are not allowed to get into bad condition, there will be no difficulty in keeping them clean and attractive.

The junior health officer should report to the teacher each day the things that he finds need attention. He also fills out his record each day, doing the work as neatly as possible and always using pen and ink. Most of the items can be answered by yes or no, good, fair, etc. Where the temperature is taken, report the average as shown by the school thermometer. (If the school has none, see that one is provided.) Items that must be answered unfavorably at the beginning of the week may sometimes be looked after properly and a favorable answer given.

At the end of the week, the junior health officer signs his name, fills in the date, and hands the report to the teacher. The teacher approves the report by signing it and mails it to the city or county health officer.

If the junior health officer is in doubt or is in need of assistance, he may phone or write the city or county health officer or write the State Board of Health who will always be glad to give aid.

(Mats for face of this blank will be furnished on application.)

(Model badge will be sent for inspection.)

STATE BOARD OF HEALTH,
TOPEKA, KANSAS.

RILEY COUNTY BOARD OF HEALTH.

Regulations for Junior Health Officers.

1. Personal cleanliness first of all.
2. Be clean in speech as well as in body.
3. Read and post all circulars, bulletins and other reading matter received from the Board of Health.
4. Coöperate with your teacher in matters pertaining to better conditions in and around your school.
5. Consult with your teacher before making complaint to this office.
6. Take record of the daily temperature of your school room.
7. See that there is good ventilation at all times and note conditions on your monthly report.
8. Make it your business to see that there is nothing on the school grounds that might be the cause of accidents.
9. Be ready and willing at all times to promote the best interest of your school in matters pertaining to health.
10. Do not permit rough play.
11. Do not allow rocks to be used for bases in playing baseball.
12. Do not permit the wearing of each other's clothing, hats or caps.
13. See that the law is enforced regarding the use of individual drinking cups.
14. Inspect outhouses daily and report conditions to your teacher.
15. Do your duty but do it in a nice way. Get others to coöperate with you and you will succeed.
16. Others will be interested in your work if you show an interest in it yourself.
17. Be prompt with your reports to this office.
18. What you do, do well. Success comes to those who tackle the task before them with a determination to win.
19. A good Health Officer is a good "scout" with plenty of "pep." **BE ONE YOURSELF.**
20. A smile is always worth while.

BABIES AND FAIRS.

Fair time is a happy time for the children, and fair managements are always glad to arrange something which will keep the little folks occupied and at the same time prove an attraction for their parents.

Following out the idea of prizes for the best of everything which is grown or produced by their patrons, fair managements several years ago introduced the "better baby contest." This proved to be a very successful attraction, apparently, as well as one which was uniquely educational.

Better-baby contests undoubtedly have played no small part in the awakening and the quickening of public interest in reference to matters which affect the health and well-being of small children, and, indeed, the health of the whole family. But better-baby contests have not proven themselves to be an unmixed blessing.

Giving prizes for the best baby in many instances became highly objectionable, leading to jealousies and often acrimonious competition for high scores, and bitter heartaches. All of this was quite outside the real purpose of the examinations, which was to have been the detection of defects in babies and the instruction of the mothers as to how best to remedy them.

The prize, however, was not the worst feature of a better-baby contest. It was evident from the first that fairgrounds were not adequately equipped for such purposes. To strip and examine babies properly necessitates a building which is dry, warm, free from drafts, sanitary, and provided with modern toilet and wash rooms. In other words, it requires an equipment equivalent to nursery or hospital facilities.

Another disadvantage of the better-baby contest at the fairgrounds is the rather severe task it imposes on the mother. To take a child through the complete examination according to a standard score card is considerable of an ordeal, both for the baby and mother. Baby usually would be happier asleep or at play, and the mother would have a very much better time looking at the exhibits or viewing interesting attractions.

The fairgrounds is admittedly a poor place for little babies. However, there are many parents who have no one with whom to leave their little ones; hence, if they see the fair the babies must be taken along. The Division of Child Hygiene believes that fair managements will confer an inestimable boon on these mothers and fathers and the little folks by providing a safe and happy place for them. At the same time they will find that a "baby checking stand" will prove a continual source of interest for the patrons.

A large open-wall tent with a tight wire fence to keep the children in, and the public out, makes an ideal baby checking stand. Pure drinking-water, with paper cups, cots for babies and convenient toilet facilities should be provided. The tent should be in charge of a nurse if possible, with a kindergartener to amuse the toddlers, and several helpers.

As each child is brought in, his name and address and the hour are entered in the registry, and he is provided with a number. This number is written on a small square patch of muslin, and with a large safety pin is firmly fastened to the back of his collar. It is a good precaution for the nurse to see each child as it is admitted, and ascertain that none are brought in suffering with a cold, rash or communicable disease.

INFANTS' DEPARTMENTS IN STORES.

Service is the keynote of modern merchandising.

For that reason progressive department stores having infants' departments are interested not alone in outfitting nurseries and babies, but they are interested in furnishing the very best outfits available.

But more than that, department stores are interested in the welfare of their very youngest customers, irrespective of sales. Many of them are purchasing and distributing, at their own expense, valuable little booklets on the care of babies and young children. And infants' department managers are studying the problems of child hygiene and child welfare, so as to direct the prospective mother's purchasing intelligently.

The Division of Child Hygiene wants to coöperate with these progressive managers wherever they are found. The division will furnish wall posters free to decorate infants' departments or windows, and a sufficient supply of reprints on the care of the baby so that a set may be given to every mother desiring them.

Attention of infants' department managers is directed to the announcement of the confidential mothers' registry on page 405 of this bulletin. Often before a young prospective mother consults her physician, or even her own family, she comes to the infants' department for advice, espec-

ally as to the necessary equipment for her baby. The department manager and her assistants can do these mothers a great service by offering them the reprints on the care of the baby and by asking them to register with the Division of Child Hygiene.

Managers of stores, and especially managers of infants' wear departments, are invited to correspond with the Division of Child Hygiene of the State Board of Health and to avail themselves of its services.

ORGANIZING LITTLE MOTHERS' LEAGUES.

Little mothers' leagues were originated in the New York city board of health. They have been called appropriately the largest volunteer life-saving corps in the world, and a large share of the credit for the reducing of child mortality in that big city is due to the faithful following of instruction by the little mothers.

Little mothers' league
button.

Girls, especially from the sixth to the eighth grade, are interested in babies. Through this interest they may be taught many valuable lessons in the care of children and the preservation of their own health. It is desirable that little mothers' leagues be organized in every grade-school building, for in no better way can this instruction be made available for all girls of that age. Teachers and superintendents of instruction are usually glad to coöperate. Outside of school, a Sunday-school class, club or any group of girls may, if they choose, form a little mothers' league or study the lessons.

Little mothers' league buttons, pledge cards, certificates of graduation and lessons are furnished free by the State Board of Health, Division of Child Hygiene, Topeka, Kan.

INSTRUCTOR.

The first and most important prerequisite is selecting the competent instructor. Trained nurses who can teach are perhaps best qualified. However, there are many teachers and mothers who, with a little studying, can conduct classes very successfully. Occasionally a woman physician may be able to take a class.

ORGANIZATION.

Make an appointment to appear before the girls of the class for a short talk explaining the little mothers' league organization. This talk should be short and as interesting as possible. If you can, exhibit a life-size doll or dainty baby garments; also, exhibit the little mothers' league pin or button and graduation certificates. Find out, by questioning, how many girls are interested, and if sufficient interest is displayed, distribute the pledge cards. Then appoint a time and place for the first meeting.

TIME.

The time following the close of the school day seems to be a favorite hour. The girls are together then, and the schoolroom makes a convenient place in which to meet.

FIRST MEETING.

Read and adopt the constitution and by-laws.

Elect president, vice president and secretary, who immediately assume office.

Secretary collects pledge cards.

Distribute pins or buttons.

Certificates of graduation should be tacked on the wall, to be a reminder to the girls that they are working with a definite aim in view.

A short talk by the instructor. This should not be a preachy talk, but rather as one girl to another, about the responsibility of being a woman; also the scope of the lessons and the many things to be gained by the attendance.

ORDER OF BUSINESS FOR ALL MEETINGS.

1. Calling of meeting to order by president at the appointed time.
2. Roll call by the secretary.
3. Discussion of previous lesson, led by girl appointed at previous meeting.
4. Fifteen-minute talk by instructor on subject of lesson.
5. Demonstration of lesson.
6. Questions and answers.
7. Appointment of leader of discussion for next meeting.
8. Adjournment.

CONSTITUTION AND BY-LAWS.

This organization shall be known as the Little Mothers' League of

Object.

The object of this organization is to instruct its members in personal and infant hygiene, so as to promote their own good health and to prevent the deaths of babies in the community.

Membership.

All girls of the ——— grade public school shall be eligible for membership.

Special groups belonging to a church, club, private school or other organization may be organized on the same basis as the public schools. The officers and their duties and other by-laws may be written by the local organizations.

EQUIPMENT FOR LITTLE MOTHERS.

Each member should provide herself with a permanently bound notebook and pencil, which she should bring with her to the meeting. She should take notes of the talk and demonstration, and afterward, if she wishes, write them up for future reference.

The notebooks are to be handed in at the last lesson, for inspection by the instructor in lieu of an examination.

EQUIPMENT FOR THE LESSONS.

The equipment for the lessons can be borrowed usually from some sympathetic mother. A life-size baby doll, which can be washed in the tub and which may be dressed and undressed, and a full set of clothing, adds much pleasure to the league meetings.

Little mothers of the State School for the Blind.

KANSAS STATE BOARD OF HEALTH**DIVISION OF CHILD HYGIENE**

I HEREBY PLEDGE MYSELF to act as a voluntary aid of the State Board of Health of Kansas in its efforts to reduce infant mortality, and wish to be enrolled as a member of THE LITTLE MOTHERS' LEAGUE

of the.....

Name

Address.....

Date.....

STATE OF KANSAS
DEPARTMENT OF THE STATE BOARD OF HEALTH
DIVISION OF CHILD HYGIENE
TOPEKA

This Diploma certifies that.....

has faithfully attended the meetings and completed the course of study of

THE LITTLE MOTHERS' LEAGUE

at.....

Given this..... day of..... 191.....

E. Crumrine
Secretary State Board Health.

Signed

Lynia Allen McIlhenny
Chief Division of Child Hygiene.

.....
Instructor.

ORGANIZING MOTHERS' STUDY COURSES.

Mothers' study courses are organized in a manner similar to the little mothers' leagues. Mothers' classes may be organized in a school district or by any club, church, lodge or other interested organization.

The same lessons are used for all classes, the instructor adapting the language to the age and understanding of the class.

For teaching adults, the reprints from the Baby Bulletin will be found to be exceedingly helpful. These cover: Infant Feeding after the First Year; Clothing; Fresh Air and Rest; Bottle-Feeding; Bathing and Care; Habits, Training and Discipline.

As each subject is taken up in class the reprints on that subject are issued, and may be taken home by the mother for future reference. Sufficient reprints, one for each member of the class, will be furnished free by the State Board of Health, Division of Child Hygiene, Topeka.

Mothers' study classes in child hygiene may be organized in co-operation with the work which is being conducted by the extension divisions of the various state schools and colleges. Write to your nearest state school or the Division of Child Hygiene for information.

MOTHERS' CONFIDENTIAL REGISTRY.

In the past few years much public-health literature has been issued, especially in reference to the care of babies and young children. Lectures by physicians and sanitarians on allied subjects are also given frequently.

But there has come to be a feeling that this public-health literature and the lectures do not reach the mothers in the homes, who perhaps can make the greatest use of it.

For that reason, at the beginning of the second year's work the Division of Child Hygiene is establishing a mothers' confidential registry, which is intended to overcome the present difficulties of public-health education in reference to the care of young children.

This division will issue a series of nine letters, which will cover the care of the expectant mother and her unborn baby, twelve letters on the care of the infant during the first year of his life, three letters covering the principal needs of the second year, and one letter each year until the child reaches his fifth birthday. In this manner it is hoped that the information the mother needs may be sent to her *at the time she needs it*.

In addition to the regular letters, the director of the Division of Child Hygiene will endeavor to answer the requests of mothers for special information regarding special needs of mother and baby, provided such requests are of such a nature that they do not need to come under the province of the family doctor.

Expectant mothers and mothers of young children up to five years of age may register any time. All that is necessary to do is to send your

name and address and give the name and age of the baby; or if prospective mother, the date of the expected confinement. In the case of expectant mothers, all the prenatal letters will be sent irrespective of the time registered.

Address all communications to DIVISION OF CHILD HYGIENE, STATE BOARD OF HEALTH, TOPEKA, KAN.

CORRESPONDENCE COURSES IN CHILD HYGIENE.

The Division of Child Hygiene is pleased to announce that beginning with the school year, September 1916-1917, two of the great educational institutions of Kansas are adding courses in child hygiene to their divisions of extension study.

It is too early to announce just what subjects will be taken up and how, or what the cost of such courses will be. However, it is certain that these courses will be of the same high standard as characterizes the extension work of these schools, and that the course will be offered free or for a nominal sum.

Mothers, teachers and others interested in child hygiene and child welfare are urged to write for information to the DIVISION OF UNIVERSITY EXTENSION, UNIVERSITY OF KANSAS, LAWRENCE, KAN., and DIVISION OF COLLEGE EXTENSION, KANSAS STATE AGRICULTURAL COLLEGE, MANHATTAN, KAN.

HEALTH EXHIBIT.

The exhibit of the State Board of Health has exceptional educational value. It is especially recommended for conventions and institutes and for other large aggregations of people interested in public-health education.

The exhibit consists of six screens of four panels each. Each panel measures three by six feet. The entire exhibit requires sixty running feet of floor space, five feet wide, and exclusive of the space for visitors. The exhibit weighs 1080 pounds and the freight charges average about \$10. Because of its bulk and expense, the exhibit is not recommended for small gatherings. For this purpose much of the same material has been reproduced on inexpensive posters.

The freight and drayage charges are paid both ways by the recipient, and the State Board of Health must be reimbursed for loss due to carelessness in handling and packing.

Applications for the exhibit should be made more than a month prior to the week for which it is wanted, to the State Board of Health, Topeka, Kan.

Exhibit at Topeka State Fair, 1915.

POSTERS.

The child-hygiene material from the large exhibit has been reproduced on twelve illustrated colored posters, each 12 by 24 inches. These posters are convenient for clubs, schools, libraries or other organizations and for baby weeks and small gatherings.

The twelve posters cover the following subjects:

- You Can Help the Babies.
- Your City Can Protect the Babies.
- Your State Can Protect the Babies.
- Your Country Can Help the Babies.
- The Cost of Feeding.
- Baby Will Be Well and Happy.
- Bathing the Baby.
- Fresh Air for the Babies.
- How to Prevent Blindness.
- The Bottle-fed Baby.
- Baby Will be Unhappy and Cross.
- Babies' Sore Eyes.

Each poster contains sufficient material for the basis of a paper or talk on that subject.

A set of the twelve posters will be sent free on request to any resident of the state of Kansas. A limited number may be sent elsewhere on receipt of postage, three (3) cents a set.

Address DIVISION OF CHILD HYGIENE, STATE BOARD OF HEALTH, TOPEKA, KAN.

CHILD-HYGIENE BOOKS AND PAMPHLETS.

It would be difficult even to list the good books that have been published on the many phases of child and race hygiene. To select the best of them would be impossible.

The following books are listed because they are standard and are to be found in many libraries. If you are unable to obtain them, the state library at Topeka will send them to you for postage or express charges. The state traveling library at Topeka will send bookshelves to clubs and other organizations. Write directly to them for information.

The reading of one book on each of the following subjects will give you a comprehensive knowledge of child and race hygiene. Teachers and parents are especially urged to do so.

PRENATAL HYGIENE.

PRENATAL CARE. Mrs. Max West. (Sent free on request to the National Children's Bureau or to the State Board of Health, Topeka.)

A complete and valuable booklet.

THE PROSPECTIVE MOTHER. J. M. Slemmons, M. D. Appleton, N. Y.

A handbook for women during pregnancy.

EXPECTANT MOTHERHOOD. J. W. Ballantyne, M. D. Funk and Wagnalla.

Gives accurate information concerning heredity, eugenics, marriage and the problems of pregnancy.

FOUR EPOCHS OF A WOMAN'S LIFE. Anna M. Galbraith, M. D. Saunders.

Instruction as to puberty, marriage, motherhood and menopause.

INFANT CARE, CHILD HYGIENE AND CHILD WELFARE.

INFANT CARE. Mrs. Max West. (Sent free on request to the National Children's Bureau, Washington.)

BABY-SAVING CAMPAIGNS. National Children's Bureau. 15 cents.

Apply to Superintendent of Documents.

REPRINTS ON CARE OF THE BABY. (Sent free on request to the State Board of Health, Topeka, Kan.)

Breast Feeding.

Bottle Feeding.

Feeding after the First Year.

Clothing.

Bathing and Care.

Fresh Air and Rest.

Habits, Training and Discipline.

BULLETIN. Child hygiene number. (Sent free on request to the State Board of Health, Topeka.)

MANUAL OF CHILD HYGIENE. For physicians, teachers and nurses. (Sent free on request to the State Board of Health, Topeka, Kan.)

THE HEALTHY BABY. R. H. Dennett, M. D. Macmillan.

Written in simple language and comprehensive.

THE CARE AND FEEDING OF CHILDREN. L. Emmett Holt, M. D.

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FROM YOUTH TO MANHOOD. W. S. Hall. Association Press.

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INFANT'S LAYETTE EXHIBIT.

So many requests for patterns and instructions for making baby layettes were made to the Division of Child Hygiene that a complete outfit has been prepared and is now available for clubs, schools and other organizations for teaching and exhibition purposes.

The exhibit consists of Miss Efficiency, a life-sized baby doll, and an entire set of correct baby garments. Miss Efficiency travels in a stout suit case, packed securely, so that she can go safely to any part of the state for her traveling expenses (express).

Miss Efficiency.

ILLUSTRATED LECTURES AND FILMS.

Lantern slides and memoranda for lectures are furnished by the State Board of Health. Express charges both ways are paid by the recipient, and a charge of twenty-five cents is made for each broken slide.

Lectures can be supplied on the following topics:

1. A Square Deal for the Baby.
2. Tuberculosis.
3. Clean Milk and Safe Milk.
4. The Filthy Fly.
5. Fakes and Fakirs.
6. Community Sanitation.
7. Conservation of Vision.
8. Man and the Microbe.

MOVING-PICTURE FILMS.

Moving-picture films are loaned by the State Board of Health to responsible parties. Express charges both ways are paid by the recipient, and reimbursement for loss or damage to the films must be guaranteed. These films present an entertaining story in addition to their educational value.

Films are furnished on the following topics:

1. The Long versus the Short Haul (Babies).
2. The Man who Learned (Babies).
3. Tuberculosis.
4. Typhoid Fever.
5. The Fly.

For illustrated lectures and films, apply to STATE BOARD OF HEALTH, TOPEKA, KAN.

LESSON OUTLINES.**OUTLINE FOR LESSONS IN PRENATAL HYGIENE.**

Complete material for lessons in prenatal hygiene will be found in the bulletin, *Prenatal Care*, issued by the Children's Bureau, Washington, D. C.

A copy of this may be obtained free by writing to the Children's Bureau or the State Board of Health, Topeka, Kan.

1. Care of the Expectant Mother.
2. Preparation for the Confinement.
3. The Birth of the Baby.
4. The Care of the New Born.

OUTLINE FOR LESSONS IN CHILD HYGIENE.

(For material for teaching, see Book List, page 408.)

1. How to Handle a Baby.
2. What to Observe in a Baby.
3. The Nursery and Baby's Bed.
4. Sleep and Quiet.
5. Baby's Bath.
6. Clothing.
7. Clothing (continued).
8. Teething.
9. Growth and Development.
10. Breast Feeding.
11. Bottle-fed Baby (Milk).
12. Bottle-fed Baby (Bottle Feeding).
13. Bottle-fed Baby (Modification of Milk).
14. Feeding After the First Year.
15. Common Diseases of Childhood.
16. Training and Discipline.
17. Habits.
18. The Healthy House.
19. Healthy People.
20. The Social Duty to the Child.

OUTLINE FOR THE STUDY OF CHILD WELFARE.

For those who desire to know more about the hygiene of older children and the problems of child welfare the following outline will suggest topics for further study.

1. Social obligation to childhood—heredity.
2. Social obligation to childhood—environment.
3. The conservation of life.
 - Registration of births.
 - Birth and birth rates.
 - Declining birth and death rates.
4. Child mortality.
 - Conditions underlying child mortality.
 - Social and physiological causes of child mortality.
5. Methods of preventing child mortality.
 - Prenatal, material, municipal and state.
 - Reduction of poverty and vice.
6. Physical examination of infants and children.
 - American Medical Association score card.
7. Physical inspection and care of school children.
 - Open-air schools.
 - Methods and progress of medical inspection.
8. Care and training of physical defectives—blind, deaf, crippled, anæmic, and underfed children.
9. Education of mental defectives.
10. Education of exceptionally bright children.
11. Industrial and vocational education.
12. Moral and sex education—preadolescent, postadolescent.
13. Child labor—causes, effects; child-labor reform.
14. Juvenile delinquency—causes and nature; conditions underlying.
15. Juvenile court and probation system—other reformatory agencies; institutions.
16. The dependent child.
 - Principles of child saving, private agencies, public agencies.
17. Play and recreation.
 - Social, physical and mental value of play.
18. Wider use of school properties.
 - Evening schools, playgrounds, physical training, vacation schools and school gardens.
19. Children's games and literature.
 - Theaters, movies.
20. Social activities of children.
 - Church, club, gang.

HOSPITAL BABIES.

The modern hospital offers to women comfortable and safe quarters for the confinement period. In many instances, too, it can offer the same or better accommodations and care than can be obtained at home, and at less expense. For that reason an increasing number of women each year are availing themselves of hospital care.

The mother is producing citizens for the state. The care at birth frequently determines the kind of citizen the child will be as well as the further usefulness of the mother. For that reason it is not too much to expect of the state that it provide sufficient hospital facilities for all expectant mothers who desire it and who are not otherwise provided for.

Nurses teaching mother how to bathe a baby, Bell Memorial Hospital.

By the coöperation of the State Hospital Association, it is now being arranged that all mothers who are delivered in hospitals shall have the additional advantage of personal instruction in the care of herself and the baby. This includes bathing and dressing the baby, preparation of food and clothing, and the many minor details of care of the after-period which are likely to be neglected and which go so much to make for the comfort and well-being of both mother and child.

The Division of Child Hygiene will furnish sufficient literature to all hospitals of the state, so that each mother may be given complete printed instructions as to the care of her baby.

First Annual Report of the Division of Child Hygiene To the Kansas State Board of Health.

JULY, 1915-1916.

The statute creating the Division of Child Hygiene included in the outline of duties the *"issuance of educational literature on the care of the baby and the hygiene of the child, the study of the causes of infant mortality, and the application of preventive measures for the prevention and the suppression of the diseases of infancy and early childhood."*

During the first year the attention has been directed almost wholly to the preparing and issuing of educational literature and to the application of measures of prevention of morbidity and mortality among young children.

The division has furthered and originated many methods for bringing child hygiene to the attention of the general public and to the especial attention of mothers of little ones. Among these methods are child-hygiene exhibits, certified babies, child-hygiene stations, mothers' study courses and correspondence courses in child hygiene, junior health officers, little mothers' leagues, mothers' confidential registry, intercounty contests, and methods for the coöperation of existing agencies working for children with the State Division of Child Hygiene. These methods are explained in detail in the June, 1916, BULLETIN.

It was early decided that it was best to work along many lines rather than along one or two, so that during the second year we can concentrate on the methods that have proved themselves to be highly practicable and discard those that are not.

The literature issued includes:

Baby Bulletin, July, 1915	20,000
Reprints:	
Infant Feeding after First Year	10,000
Bottle-feeding	10,000
Habits, Training and Discipline	10,000
Fresh Air and Rest	10,000
Bathing and Care	10,000
Clothing	10,000
	60,000
Infant Feeding after First Year (2d edition)	40,000
Score cards (American Medical Association)	10,000
Baby certificates	10,000
Posters—12 posters, 5000 each	60,000
Press letters—average publication in sixty newspapers	87
Child-hygiene station blanks	1,000
Little mothers' league certificates	1,000
Little mothers' league buttons	5,000
Junior health officer blanks	1,000
Governor's trophy pamphlet	10,000
Bulletin, Child Hygiene number, June, 1916	20,000
Manual of Child Hygiene	1,000

The July, 1915, Baby Bulletin was exhausted in less than three months, so 10,000 each of six reprints covering the essentials of baby care were printed. Of these, "Infant Feeding after the First Year" was exhausted several months ago, and an additional 40,000 were issued. As soon as the other reprints are distributed new material will be added and new editions printed.

In addition to the distribution of literature, the Division has averaged writing nearly twenty-five letters daily. The director personally delivered ninety-five lectures.

Nearly 3000 babies have been examined and certificates issued.

Requests for posters have come from every direction. Several city and state boards of health have asked for the illustrations and permission to reproduce the posters, giving credit to Kansas.

The little mothers' league and junior health officer material was gotten ready rather too late in the year to organize many schools; but with the opening of school next fall it is expected that many schools will be supplied.

Baby Weeks in Kansas were a tremendous success and gave the interest in child hygiene a great impetus. More than 400 celebrations were held in this state alone, which is the greatest number held in any one state. Those celebrations ranged from a single sermon by a local pastor to an entire baby week with baby examinations, exhibits and educational programs.

For the second year arrangements for two investigations are already under way. The better-known causes of infant mortality in Kansas, it may be presumed, are much the same as in other states. So it was thought best not to go over ground which has already been covered by many surveys, but to conduct investigations along new lines and about which little has been discovered.

The first investigation in connection with the National Children's Bureau will investigate rural infant mortality as it relates to conditions surrounding the young child and its mother.

The second survey in connection with several national organizations devoting their attention exclusively to this line of work will investigate the question of infant mortality as related to the feeble-minded, the insane, the defective and the dependant.

Unfortunately it is not possible to state in this report a definite lowering of the infant mortality rate or a large number of babies' lives saved as a result of the first year's work of the Division of Child Hygiene. This is partly because this work has been done in six months of each of two years, for which the total results have not yet been tabulated; and because infant mortality rates, to be of practical value, should be averaged for periods of not less than four years.

In the last few years the infant mortality rate for Kansas has been decreasing. Contributing to this decrease have been the better enforcement of birth registration, pure food and drug regulations, stricter quarantine of communicable diseases, and perhaps more than all, the general awakening to the importance of morbidity and mortality rates,

following the continuous campaign conducted by the State Board of Health.

To this now is added the special work of the Division of Child Hygiene. The effect of all this effort will be cumulative, and the results at the end of the four years, it may be safely predicted, will show a striking contrast to preceding periods.

Respectfully submitted.

LYDIA ALLEN DEVILBISS, M. D., *Director.*

SUGGESTIONS FOR LEGISLATION

Tending to Improve the Health and Welfare of Young Children and Reducing Infant and Child Mortality.

There are approximately 40,000 children born each year in Kansas. The Division of Child Hygiene is concerned with the health and welfare of these children, especially up to school age.

The state of Kansas includes about 80,000 square miles of territory. Obviously it is a physical impossibility for the present staff of the Division, consisting of a director and one stenographer, to anywhere meet the demands made on their time and strength or to conduct the work of the Division as they would like to see it done.

It is therefore urged that in the next appropriation for child hygiene provision be made for employing public-health nurses having special training in work for children. One such nurse in each congressional district should be a minimum. These nurses would give prenatal instruction to expectant women and instruction in the care of young children to mothers. They would enforce birth registration and visit the newborn. They could establish and visit child-hygiene stations and assist school nurses. They would also be a powerful incentive to each city and county to provide for a full-time nurse for their own district.

With such help as this, the work for child hygiene would go forward with a great impetus and soon would exert a telling effect on the health and the mortality rates of young children.

It is believed that the state of Kansas is charged with a higher rate of infant mortality than that to which it is justly entitled, because of the failure to report all births.

A more stringent birth registration, perhaps based on the English law, which requires that a notice must be mailed to the proper authorities twenty-four hours after the birth of a baby, would undoubtedly be instrumental in lowering the infant mortality rate. However, it would in no wise affect the actual infant mortality.

Provision for the care of mothers and babies in confinement has scarcely kept pace with the advance in the medical treatment of these cases. Therefore, proper provision might be made for hospital treatment at childbirth for all women who desire it. City and county hospitals for this purpose should be operated as a public utility, never forgetting that money appropriated for the public health is not an expense but a preferred investment.

In order to reduce the high infant mortality rate of defective children, it is suggested that permanent custodial care be provided for defective adults who are not able to refrain from criminal actions. And that those who otherwise may be permitted their liberty be prevented, by scientific and humane measures, from procreating defective children.

More than a century ago the state decided that trained minds were essential to a satisfactory citizenship, and that the best method of accomplishing this end was a socially owned and controlled public school system.

It is beginning to be pretty generally recognized now that healthy bodies are just as essential as trained minds, and the greatest good to the greatest number may best be secured by a socially operated system and treatment of school children which includes nurses and physicians as well as physical directors.

It is estimated that 90 per cent of American-born school children are in need of some kind of medical treatment during the school year, and that virtually all retarded children are suffering from one or more physical or mental defects.

For these reasons it is urged that the same state-wide provision be made for the protection and the improvement of the health of school children as is now being made to improve their minds.

Hygiene, to be of value, must not be only another kind of book-learning, but it must be made a matter of daily living. For that reason hygiene in all its phases should be taught in the public schools, from the practical lessons in simple cleanliness in the early grades, up to and including public and race hygiene to the students of proper maturity.

A generation having a proper knowledge of the laws of hygiene is bound to be followed by a better and a stronger generation; also they will be better prepared to take care of the next and the succeeding generations.

The director of the Division of Child Hygiene has visited and inspected a number of public and private lying-in hospitals, detention homes, day nurseries and other institutions harboring dependent children. Some of these institutions are in excellent condition and are a credit to the organization supporting them. In others the condition may be described only as shocking.

For this reason it is suggested that all individuals or organizations harboring dependent children obtain credentials or certificates from some proper state official or board, and that such official or board be supplied with such staff of inspectors as may be necessary to inspect such institutions as frequently as may be advisable.

The state now inspects and licenses hotels and lodging houses for grown-ups. Why should it not do as much for helpless children?

At present there is not a single state officer in Kansas whose special business it is to look after cases of neglected, abandoned, diseased or abused children, or who has the authority to initiate investigations or prosecutions, or take action in such cases, except the governor or attorney-general.

Dependent children's cases are at present handled by the county probate court. Without some state correlation there is no possibility of attaining uniform results or a uniformly high standard of action. Many of these judges who have had no special training or qualifications for dealing with the problems of dependent children would welcome suggestions and helpful counsel from such state officer who was making a special study of this one question.

In this way, too, normal children may be separated from the abnormal ones and placed in proper homes, while delinquent or defective children may be placed in such institutions as may best be fitted to serve their needs.

Therefore it is suggested that the powers of the Division of Child Hygiene be extended, or preferably, a new office or division be created, having to do with problems of child welfare.

INDEX.

	<i>page</i>
Infant mortality all over the world.....	376
Principles of the reduction of Infant Mortality.....	377
Infant Mortality in Kansas.....	380
Birth Registration	383
Intercity contest	385
Intercounty contest	385
Public health doctors and nurses.....	389
Child-hygiene Stations	390
Certified Babies	394
Junior Health Officers	395
Riley County Board of Health	398
Babies and Fairs.....	399
Infants' Departments in Stores.....	400
Little Mothers' League (pledge card and certificate).....	401
Mothers' Study Courses.....	405
Mothers' Confidential Registry.....	405
Correspondence Study Courses.....	406
Health Exhibit	406
Posters	407
Child-hygiene Books and Pamphlets.....	408
Infants' Layette Exhibit	410
Illustrated Lectures and Films.....	410
Lessons in Child Hygiene.....	411
Outline for lessons in Prenatal Hygiene.....	411
Outline for the Study of Child Welfare.....	412
Hospital Babies	413
First Annual Report of the Division of Child Hygiene.....	414
Suggestions for Legislation Relating to Child Hygiene.....	416
Back Cover, the Progress of Civilization.	

THE PROGRESS OF CIVILIZATION.

In the earliest history of the race nobody cared for babies, except, perhaps, their mothers.

Babies had no rights; they were only a necessary evil—and the records of the slow progress of civilization might be written in the blood of babies.

In the South Sea Islands, when either parent died, the children were slain and buried that they might wait on the parent in the other world.

In China, girl babies in the interior provinces were drowned or thrown in towers to perish.

In parts of India the mother put opium on her breasts that the baby might take it with the milk and die.

Even the Greeks, who established a civilization higher than that of any other ancient people, exposed their undesired infants on the mountain tops.

But little by little, through the succeeding centuries, the baby has been coming into its own, until today the *infant death rate* is considered the *best index to a civilization*. In other words, *how a nation cares for its babies is the standard by which it is measured in the civilizations of the world*.

By the same standard may be measured the civilization and the evolution of the individual.

To the individual and the nation, business is important because it makes the living.

But babies are all-important because they are making lives.

What babies' lives are made they will be. Through them and their descendants influences for good or for evil are perpetuated to the end of time.

According to these influences the greatest empires have arisen and fallen, the most powerful dynasties have come and gone.

America can not hope to escape the great law of causation.

In a million years, when the forests are felled and the streams are dried and when the desert prevails, will it become a field for the surveying parties of the archaeologist hunting for relics of a well-nigh forgotten people?

Will all that remains of America be the ruins of another civilization? Or will her character and her influence endure as a priceless heritage to a greater and a nobler race?

The answer will be written in the care that is bestowed on the babies.
Where there is no vision the people perish.

GENERAL INDEX.

	<i>page</i>
Abandoned wells	68
Abolition of common drinking cup and towel	29
Acid, carbolic	89
Acid, prohibition of addition of free tartaric	69
Adulterated eggs	69
Advertising, false	15
Advertising law, false	34
Advertising, objectionable	15
Advisory Board, personnel	4
All time health officers 8, 13, 16, 17, 18,	21
Alum in foods	92
Agreement with Alexander & Co., antitoxins 48, 49,	56
Analyses, drug	182, 133
Analyses, food	130, 131
Analysis of surface water supplies 112, 113,	114
Analysis of water samples 41, 42, 43,	44
Animal products (standards)	25
Annual summer school for health officers and physicians	33
Antitoxins, vaccines, serums 11, 12, 17, 19, 47, 66,	76
Apples, evaporated	25
Appointment of committee on additional compensation for hotel commissioner	93
Appointments:	
Eunice Catton	85, 38
Dr. Lydia Allen DeVilbiss	34, 38
Laura Neiswanger	53
Francis M. Veach	73, 112
Appointments, federal	79, 80
Appropriation, insufficient 9, 11, 12, 18, 31, 66,	76
Appropriations	10, 11
Appropriations increased	34
Aspirin	89
Atchison Orphans' Home	74
Attorney-general's opinion	82, 101
Auditing committee's report	38, 93
Bacteriologist's report	83
Bad-egg campaign	9
Barber Examining Board	35
Beverages 84, 85, 86,	88
Bills audited and allowed 25, 46, 59, 65, 74,	94
Birth reports	9, 10
Board of Health, Dr. Kerr's report on	16
Board of Health exhibit	13, 34
Bottled waters 31, 43,	60
Bottled waters, correction of rules	90
Bread	84
Bread wrapping	69
Budget, insufficient 9, 11, 12, 18, 31, 66,	76
Budget, proposed	11
Cacao and cacao products	70
Cake	84
Caldwell, water supply 56, 57,	77

	<i>page</i>
Candies	84
Caney, water supply	56, 57, 63, 77
Canned foods	86
Canned goods	85, 86, 88
Canned fruits	84
Canned vegetables	84
Capsicum	89
Car inspection	27
Carbolic acid	89
Care of baby, pamphlets	79
Care of room in contagious or infectious diseases	72
Castle of cheer	80
Catsup	84, 85, 86
Cattle	68
Cayenne pepper	89
Crackers	84
Cedar Vale, water supply	56, 77, 82
Certified dyes	70
Cesspools	68
Chanute, sewage	24
Chickenpox, control	71
Child Hygiene, Division of	7, 9, 17, 34, 54, 62, 67, 78, 90
Chili powders	89
Chocolate	70, 84
Circular letter No. 8 rescinded	92
Citrus fruits, immature	52, 62
Cocoas	85
Cocoanut	84
Coffeyville, water supply	31
Collection of water samples, rules and regulations	41, 42, 43, 44
Colors	84
Commendation of certain journals	28
Committee on rules and regulations (sanitation and communicable disease)	45, 64
Common towel, abolished on trains	29
Communicable disease, control	71, 96
Communicable Diseases, Division of	7, 17, 18, 27, 30, 47, 61, 65, 78, 95
Communicable diseases, transportation of people suffering from	29, 72, 80
Concentrated milk	25
Condemnations of scales, weights and measures	137
Condensed milk	25
Condensed mince meat	25
Condiments	84
Confections	85, 86
Conferees	4
Conference, national	13, 28
Conferences, departmental (division chiefs)	13, 19
Contents	3
Control of communicable disease	71
Coöperation between Board of Health and health officers	19
Coöperation with U. S. P. Hospital Service	47
Correction in rules relating to bottled waters	90
Correspondence relative to plague in New Orleans	26
Correspondence, smallpox in Grainfield	65, 66
Correspondence with Dr. H. M. Alexander & Co., antitoxins	48, 49, 66
Council Grove waterworks	40, 110
Course for health officers	14
County survey	30, 38, 51
Crude drugs	89

	<i>page</i>
Dairy products	85, 86, 88
Dead, transportation of the	28, 36
Death rate	75
Decennial report of the food laboratory at Kansas University.....	84, 85, 86, 87, 88
Dental clinics, free	84
Deteriorated foods and drugs	124
Diabetic food	45
Diphtheria	12, 61
Diphtheria, control of	71
Diseases, communicable	29
Diseases, epidemic	26
Disease investigations	99
Disinfection	71
Disinfection of discharges from the sick room	72
Disinterment and transportation of the dead	73
Disposal of sewage at unsewered homes and rural districts	28, 37
Division of Antitoxins	17, 18
Division of Child Hygiene	7, 9, 17, 34, 54, 62, 67, 78, 90
Division of Communicable Diseases and Sanitation..	7, 17, 27, 30, 47, 61, 65, 78, 95
Division of Food and Drugs	7, 9, 17, 31, 51, 62, 67, 77
Division of Public Health Education	7, 10, 17, 19, 33, 54, 62, 79, 121
Division of Vital Statistics	7, 9, 17, 32, 53, 60
Division of Vital Statistics, how supported	17
Division of Water and Sewage	7, 8, 17, 21, 30, 38, 53, 60, 66, 77, 104
Divisions of the work	7, 17
Drains	68
Drinking cups on trains	29
Drinking water standards	29
Doctor Chapin's report	76
Doctors cited to appear before the Board	82
Doctor Kerr's report on State Board of Health	16
Dried fruits	84, 85, 86
Drug analyses	132, 133
Drug inspection	126, 128
Drug laboratory report	89
Drugs, special investigations	124
Dyes, certified	70
Economic loss through disease	13
Educational	102
Educational propaganda	7, 8
Eggs	14, 31, 39, 69
Egg-breaking establishments, regulation	39
Egg noodles	70
Election of officers	46, 92
Emporia, water supply	24, 30, 41, 77
Engineer's report	24, 104, 112
Epidemic diseases	26
Evaporated apples	25
Evaporated milk	25
Examination of employees	78
Examination of municipal water supplies	19
Exhibit, Board of Health	13, 34
Exhibit car	11
Extracts	84, 85, 86
False advertising	15
False advertising law	34
False labels	14, 15
Farinaceous	84
Federal appointment	79, 80

	<i>page</i>
Fees for analyses at water and sewage laboratory	31, 42, 43, 44
Fees for Division of Vital Statistics	17
Fish and meat products	84
Flood, Fort Scott.....	50
Flour and cereal products	88
Flour, gluten	45
Flour, self-rising gluten	45
Fluid extracts	89
Food analyses	130, 131
Food and Drugs, Division of	7, 9, 17, 31, 51, 62, 67, 77, 121
Food and drug inspection	126, 128
Food, diabetic	45
Food laboratory report, Kansas University	84- 88
Food sanitation	9, 15
Food standards	25, 70
Food, special investigation	124
Foot and mouth disease	61
Fort Scott flood	50
Free dental clinics	34
Fruit butter	25
Fruit, canned	84
Fruits, dried	84, 85, 86
Fruit standards	25
Full-time health officer	8, 13, 17, 18, 19, 21
Fumigation of schoolhouses	29
Funerals, public	72
Galena, water supply	73, 77
Garbage disposal	83
German measles	71
Glucose fruit butter	25
Glucose jelly	25
Gluten flour, standard	45
Governor's contingent fund	11, 12
Grainfield, smallpox quarantine	65
Grain and bakery products	85, 86
Grain products, standards	45
Grape fruit	85, 87
Grippe	75
Ground gluten standard	45
Ground water supplies, rules and regulations	42
Harmful remedies	28
Health almanac	33
Health officers	7, 14, 16
Health officers' summer school	33, 79
Health organization, local	95
Honey	84
Hotel inspections	77
Ice cream	85, 87
Ice, rules and regulations covering collection of samples and analyses	58
Immature citrus fruits	52, 62
Increased appropriations	34
Independence, water supply	31
Indians and trachoma	22
Infant mortality	10
Inspection of food and drugs, sanitary	122, 126, 128
Inspection of railroad cars	27
Inspection of schoolhouses	44, 100, 102
Inspection of slaughter houses	69

General Index.

V

	page
Inspection of state institutions	81
Inspection of water and sewer systems, visits of	105
Installation of waterworks plants	115
Institutions, public	69
Insufficient appropriation 9, 11, 12, 18, 31, 66,	76
Interstate quarantine regulations	29
Investigation of diseases	99
Investigation of trachoma among Indians	22
Investigations in foods	88, 89
Investigations, sanitary	100
 Jam	84, 85, 87
Jell Powders	84
Jelly, glucose	25
Jelly, jam and preserves	84, 85, 87
 Kansas death rate	75
Kansas school of public health education	55
 Labels, false	14
Laboratories, State Board of Health	17, 19
Laboratory, report of director of water and sewage	120
Laboratory rules	72
La Harpe, water supply	56, 57, 77
Law, vital statistics (amended)	34
Lecture course, public health	10, 16
Lectures, public health	103
Legislation, new	33
Legislation, suggested	16
Letter of transmittal	5
Lime water	89
Linseed oil	122
Liquid petrolatum	89
List of sewer systems in state	117
List of those attending summer school for health officers	33
List of waterworks plants in state	116
Local health organization	95
 McPherson, sewer	39, 77, 110
Maintenance of Division of Vital Statistics	17
Marion, water supply	56, 57, 77
Marriage regulation	17
Meal products, standards	70
Measles, control	71
Measures	122, 124
Measures condemned	134
Meat products	84, 88
Meats, standards	25
Medicine Lodge, water supply	73, 77, 82
Medicines, patent, harmful	28
Medicines, proprietary, harmful	28
Meetings attended:	
Conference of the State and Provincial Boards of Health of North America, 13,	28
Association of American Dairy, Food and Drug Officials	14
Milk campaign	9
Milk chocolate	70
Milk, concentrated	25
Milk, condensed	25
Milk, evaporated	25
Milk sanitary survey	31, 123
Milk standards	14, 25, 84

	<i>page</i>
Milk and its products, standards	25, 84
Mince	25
Mince meat	25
Mince meat, condensed	25
Minutes	22, 36, 56, 63, 68, 82
Misbranded food and drugs	124
Morbidity reports	17
Morbidity statistics	75
Mortality statistics	75
Mumps, control	72
Municipal water supplies, samples examined	19
National conference	13
Needs of the State Board of Health	19
Neosho river	24, 31
Neodesha, sewage	40, 77, 110
New legislation	34
New Members of Board	36
Nitre, sweet spirits of	89
Noodles	70
Nostrums	28, 37
Nuisance	68
Nurses, public health	54
Nuts	84, 88
Objectionable advertising	15
Officers, State Board of Health	46, 92
Oil, linseed	122
Oils	85, 87
Oils, vegetable	84
Olathe sewers	39, 77, 110
Opinion, attorney-general's	101
Oranges	25
Orders, State Board of Health	110
Orphans' Home	74
Osawatomie water supply for State Insane Hospital	40, 77, 110
Pamphlets, distribution of	79
Paola, water supply	56, 77
Paprika	89
Patent medicines	28, 58, 63, 83, 89, 124
Pepper	89
Period of quarantine and isolation of communicable disease	71, 72, 73
Personnel, Advisory Board	4, 92
Personnel, State Board of Health	4, 46, 92
Petrolatum	89
Pharmaceutical Association, committee report	83
Physical examination of packing-house employees	78
Physical examination of persons handling foods	15
Pickles	84, 85, 87
Pigpens	68
Plain Noodles	70
Plague	26
Poliomyelitis, quarantine	71
Powdered capsicum	89
Prenatal care, pamphlet	79
Preserves	74, 85, 87
Privy vaults	68
Proprietary medicines	28, 36, 87
Prosecutions	134
Public bath	72

	<i>page</i>
Public buildings, sanitary control of	69
Public funerals	72
Public health nurses	54, 63
Public Health Education, Division of	7, 10, 17, 19, 33, 54, 62, 79, 121
Public health lecture course	10, 16, 55, 79
Public health lectures	103
Public institutions	69
Quarantine for contagious disease	71, 72, 73
Quarantine for smallpox at Grainfield	65
Quarantine regulations, interstate	29
Quarantine, state	72
Railways, drinking water	43
Railway sanitation	29
Rats	26
Red pepper	89
Refuse matter	68
Registration area	9, 17, 78
Registration of vital statistics	75
Regulation 35	25, 39, 69, 70, 71
Regulation concerning control of communicable diseases	71, 72, 73
Regulation, interstate quarantine	29
Regulations regarding egg-breaking establishments	39
Remedies, harmful	28
Report of auditing committee	38, 46, 59, 65, 74, 94
Report of Conference, State and Provincial Boards of Health of North America....	94
Report of Conference of State and Territorial Health Officers with U. S. P. Health Service	93
Report, director of laboratory of the Water and Sewage Division	120
Report, Division of Child Hygiene	90
Report, Division of Food and Drugs	121
Report, Dr. Kerr's, on State Board of Health	15
Report, drug laboratory, K. U.	89
Report, engineer's	24, 104, 112
Report, food laboratory, K. U.	84
Report, food laboratory, Manhattan	88
Report, standards committee	69
Report of state bacteriologist	88
Report, secretary's	12, 26, 47, 60
Resolutions adopted by Association of American Dairy, Food and Drug Officials	14, 15, 16, 31, 51
Resolutions adopted by state and provincial boards of health	13, 28, 36, 37, 93
Resolutions adopted by Board	24, 36, 37, 44, 63, 110
Rice	84, 87
Rules governing laboratory	72
Rules and regulations for collection of samples and analysis of ice for domestic consumption	58
Rules and regulations for collection of samples and analysis of water	41, 43, 44
Rules and regulations, sanitary	68
Rules and regulations, sewage disposal	109
Rural sanitation	28, 37
Samples of water, rules and regulations for the collection of and analyses	41
Sanitary districts, proposed divisions	24
Sanitary control of public buildings	69
Sanitary fund	35
Sanitary inspection law	122
Sanitary investigation	100
Sanitary milk survey	31
Sanitary rules and regulations	68
Sanitary survey	13, 14, 30, 38

	<i>page</i>
Sanitary survey, food and drugs	122
Sanitation of food and drugs	9, 15, 31, 122
Sanitation, railway	27
Scales condemned	134
Scales, weights and measures	122
Scarlet fever, control	71, 72
Schoolhouse fumigation	29, 44
Schoolhouse inspection	44, 100, 102
School for health officers and physicians	79
Secretary's report	12, 26, 47, 60, 75
Secretary State Board of Health, duties and powers	17
Sewage	24, 27, 37, 109
Sewage disposal, rules and regulations	109
Sewerage	105
Sewer orders:	
McPherson	39, 110
Neodesha	40, 110
Olathe	39, 110
Sewage orders, Osawatomie State Hospital for the Insane	40, 77, 110
Sewer plant for packing houses	118
Sewer systems in state	117
Sheep	68
Slaughterhouse survey	123
Slaughterhouses	68, 69, 123
Smallpox, control	71
Smallpox	19, 21, 65, 66
Special investigations of food products	124
Special investigations of drug products	124
Special work done by Water and Sewage Division	108
Spirits	89
Standard for immature oranges	15
Standard oil refinery	31
Standards	25, 70
Standards committee report	69
Standing of Division of Vital Statistics in Registration Area	78
Standard for gluten flour	45
Standardizing State Board of Health work	67
State Board of Health, exhibit car	11
State Board of Health, function of	17
State Board of Health, needs of	19
State Board of Health, personnel	4
State quarantine	72
Statistics, morbidity	75
Statistics, mortality	75
Substitution in drugs	89
Suggested legislation	16
Suggested plans for providing full-time health officers	19
Summer school for health officers and physicians	33, 79
Sumner county survey	30
Surface water supplies, rules and regulations for city	42
Survey, county	30, 38, 57, 63
Survey of Indian school for trachoma investigation	22
Sweet chocolate	70
Sweet cocoa	70
Sweet spirits of nitre	89
Syrups	84, 85, 87
Tartaric acid, prohibition of addition of free	69
Tea, coffee and cocoa products	70
Tinctures	89

	page
Public buildings, sanitary control of	69
Public funerals	72
Public health nurses	54, 63
Public Health Education, Division of 7, 10, 17, 19, 33, 54, 62, 79,	121
Public health lecture course	10, 16, 55, 79
Public health lectures	103
Public institutions	69
Quarantine for contagious disease 71, 72,	73
Quarantine for smallpox at Grainfield	65
Quarantine regulations, interstate	29
Quarantine, state	72
Railways, drinking water	43
Railway sanitation	29
Rats	26
Red pepper	89
Refuse matter	68
Registration area 9, 17,	78
Registration of vital statistics	75
Regulation 85 25, 39, 69, 70,	71
Regulation concerning control of communicable diseases 71, 72,	73
Regulation, interstate quarantine	29
Regulations regarding egg-breaking establishments	89
Remedies, harmful	28
Report of auditing committee 36, 46, 39, 65, 74,	94
Report of Conference, State and Provincial Boards of Health of North America . .	94
Report of Conference of State and Territorial Health Officers with U. S. P. Health Service	93
Report, director of laboratory of the Water and Sewage Division	120
Report, Division of Child Hygiene	90
Report, Division of Food and Drugs	121
Report, Dr. Kerr's, on State Board of Health	15
Report, drug laboratory, K. U.	89
Report, engineer's 24, 104,	112
Report, food laboratory, K. U.	84
Report, food laboratory, Manhattan	68
Report, standards committee	69
Report of state bacteriologist	68
Report, secretary's 13, 26, 47,	60
"ug Off.	
16, 31,	51
36, 37,	98
44, 63,	110
. . . 84,	87
.	72
"stic con-	
.	58
41, 43,	44
.	68
.	100
. . . 28,	37
.	41
.	24
.	69
.	35
.	122
.	100
.	31
.	68
. . . 14, 30,	38

INDEX TO BULLETINS.

- Acacia. Vol. XII, p. 10.
 Acetyl Salicylic Acid Tablets, 5 gr. Vol. XI, p. 9; vol. XII, p. 8.
 Acid Aceto-salicylic Acid. Vol. X, p. 253.
 Acid, Acetyl Salicylic. Vol. XII, pp. 15-24.
 Acid, Acetylo-salicylic Tablets. Vol. XI, p. 326; vol. XII, pp. 7, 15.
 Acid, Carbolic. Vol. XI, pp. 167, 326; vol. XII, pp. 7, 14, 24.
 Acid, Citric. Vol. X, p. 256; vol. XI, pp. 15, 167, 178.
 Acid, Crude Pyroligneous. Vol. X, p. 270; vol. XI, p. 15.
 Acid, Dilute Hydrochloric. Vol. XI, p. 326.
 Acid, Dilute Hydrochloric. Vol. XI, pp. 9, 15, 38, 166, 173; vol. XII, p. 11.
 Acid, Free Tartaric, Prohibited. Vol. XII, p. 45.
 Acid Solution, Tartaric. Vol. XI, pp. 167, 179.
 Acid, Tartaric. Vol. X, p. 277; vol. XI, pp. 167, 179, 249.
 Acidine. Vol. X, pp. 253, 270; vol. XI, p. 42.
 Aconite. Vol. XII, p. 11.
 Adams Special Beer. Vol. X, p. 256.
 Adenoids. Vol. X, p. 288.
 Adora Hair Dressing. Vol. X, p. 211.
 Advertisement. Vol. X, pp. 226-240.
 Advertising fraud. Vol. X, p. 194.
 A Father's Tribute. Vol. XII, p. 34.
 Ages, Cause of Death by. Vol. XII, pp. 234, 238, 242, 246.
 Ages, Deaths by Counties. Vol. XII, pp. 144, 146, 148, 150, 152, 154, 156, 158.
 Alcohol. Vol. XI, pp. 167, 178, 298; vol. XII, p. 11.
 Ale, Ginger. Vol. XI, pp. 298, 326; vol. XII, p. 56.
 Almazoin. Vol. X, p. 210.
 Almonds. Vol. XII, p. 71.
 Almonds, Unshelled. Vol. XII, p. 7.
 Almond Extract. Vol. XI, p. 9.
 Aloes, Cape. Vol. XII, p. 11.
 Althea. Vol. XII, p. 9.
 Alum. Vol. X, p. 210.
 Alum in Pickles. Vol. X, p. 272.
 Amarol. Vol. X, p. 210.
 Amendments to Food and Drug Law. Vol. XI, p. 6.
 Ammonia, Aromatic Spirits of. Vol. XI, pp. 167, 174.
 Amorphous Quinine. Vol. X, p. 253.
 Am-o-tone. Vol. X, p. 211.
 Analyses of "Beautifiers." Vol. X, p. 210.
 Analyses, Drug. Vol. X, pp. 244-250; vol. XI, pp. 13, 172; vol. XII, p. 8.
 Analyses, Food. Vol. XI, pp. 38, 55, 167, 245; vol. XII, p. 55.
 Analyses of Food and Drugs. Vol. X, pp. 206, 241, 268, 270, 273; vol. XI, pp. 9, 13, 38, 53, 55, 166, 172, 245; vol. XII, p. 8.
 Analyses of Milk Bacteriological. Vol. XI, p. 111.
 Analyses of Milk and Cream. Vol. XI, p. 98.
 Analysis of Waters, Legislation Concerning. Vol. XI, p. 74.
 An Antidote for Bichloride Poisoning. Vol. XI, p. 335.
 Anchovies. Vol. XI, p. 326.
 Animal Products. Vol. XI, p. 6.
 Animals, Bacillus Carriers Among. Vol. XI, p. 126.
 Anise. Vol. XII, p. 10.
 Anise Star. Vol. XII, p. 11.
 Announcement, Annual School for Physicians and Health Officers. Vol. XII, p. 26.
 Annual Toll from Measles and Whooping Cough. Vol. X, p. 285.
 Anti-dandruff Powder. Vol. XI, p. 326; vol. XII, p. 12.
 Anti-freckle Lotion. Vol. X, p. 210.
 Anti-gripine. Vol. X, p. 252.
 Antitoxins and Vaccines, Free Distribution to the Indigent Poor of the State. Vol. XI, p. 269.
 Anti-typhoid Campaigns. Vol. XII, p. 304.
 Apple Butter. Vol. X, pp. 256, 270; vol. XI, pp. 9, 41, 53, 61, 166, 248.
 Apple Cider. Vol. X, p. 270; vol. XI, p. 39.
 Apple Jelly. Vol. X, p. 270; vol. XI, p. 9.
 Apples. Vol. XI, p. 9.
 Apples, Canned. Vol. XI, p. 166; vol. XII, p. 88.
 Apples, Dried. Vol. XI, p. 40; vol. XII, p. 7.
 Apples, Evaporated. Vol. XI, pp. 6, 166, 245.
 Apricots, Canned. Vol. X, p. 276.
 Apricots, Dried. Vol. X, p. 270; vol. XI, p. 247.

- Arbolone. Vol. XI, pp. 167, 179.
Arotoite, Granulated Coffee. Vol. X, p. 270.
Arnica. Vol. XII, p. 11.
Arnica, Tr. of. Vol. XI, pp. 167, 178.
Aromatic Spirits of Ammonia. Vol. XI, pp. 167, 174.
Asafoetida, Gum. Vol. XI, pp. 53, 174.
Asafoetida, Powdered. Vol. X, p. 256; vol. XI, p. 15.
Asafoetida, Tr. of. Vol. XI, pp. 53, 178.
Asparagus, Canned. Vol. X, p. 270; vol. XI, pp. 9, 38, 166, 170, 249; vol. XII, p. 88.
Aspirin Compound Tablets. Vol. XI, pp. 9, 326; vol. XII, p. 12.
Aspirin, Granular Effervescent. Vol. X, p. 252; vol. XI, pp. 38, 179.
Aspirin Tablets, 5 gr. Vol. X, pp. 206, 251; vol. XI, pp. 9, 16, 18, 326; vol. XII, pp. 8, 11.
A Word for Father (poem). Vol. XI, p. 47.
Babies and Fairs. Vol. XII, p. 399.
Babies, Blindness in. Vol. XI, p. 235.
Babies, Certified. Vol. XI, p. 230; vol. XII, p. 394.
Babies, Hospital. Vol. XII, p. 413.
Babies, Summer Care of. Vol. XI, p. 189.
Baby Bathing. Vol. XI, p. 203.
Baby, Bottle Feeding. Vol. XI, p. 214.
Baby, Breast Feeding. Vol. XI, p. 212.
Baby, Care of Special Organs. Vol. XI, p. 205.
Baby Clothing. Vol. XI, p. 206.
Baby Examinations. Vol. XI, p. 227.
Baby Feeding after First Year. Vol. XI, p. 218.
Baby Feeding during the First Year. Vol. XI, p. 218.
Baby, Fresh Air. Vol. XI, p. 201.
Baby, Habits, Training and Discipline. Vol. XI, p. 208.
Baby Nursery. Vol. XI, p. 199.
Baby-saving Campaigns. Vol. XI, p. 224.
Baby, Sleep. Vol. XI, p. 202.
Baby, Teething. Vol. XI, p. 206.
Baby, What It Needs and does Not Need. Vol. XI, p. 77.
Baby, What to Notice in. Vol. XI, p. 198.
Baby Week. Vol. XI, p. 227.
Baby-week Programs. Vol. XI, p. 231.
Bacillus Carriers among Animals. Vol. XI, p. 126.
Bacteria, Butter Milk, and. Vol. XI, p. 331.
Bacteria in Milk. Vol. XI, p. 86.
Bacteriological Analyses of Milk. Vol. XI, p. 111.
Bacteriological Analyses of Wells in Sumner County. Vol. XI, p. 148.
Bacteriological Examination of Canned Goods. Vol. XII, p. 71.
Bacteriological Laboratory, Work. Vol. XII, pp. 316, 370.
Badge of Junior Health Officers. Vol. XII, p. 395.
Baking Powder. Vol. X, pp. 256, 270, 273; vol. XI, pp. 9, 39, 53, 166; vol. XII, pp. 24, 54, 55.
Banana Extract. Vol. X, p. 275.
Banana Flavor. Vol. X, p. 256.
Bank of Health, An Account in the. Vol. XI, p. 260.
Barbo Compound. Vol. X, p. 211.
Bathing the Baby. Vol. XI, p. 203.
Bay Rum. Vol. X, p. 270.
Bay Rum. Vol. XI, p. 16.
Beans, Lima. Vol. XI, p. 298.
Beans and Pork. Vol. X, p. 270.
Bear's Oil. Vol. X, p. 245.
Bear's Oil, Imitation. Vol. X, p. 252.
Beauty Drugs. Vol. X, p. 209.
Beer, Ginger. Vol. XII, p. 7.
Beer, Root. Vol. XI, p. 298.
Beers, Temperance. Vol. X, pp. 243, 253, 256, 274; vol. XI, pp. 39, 166, 245.
Bees Wax. Vol. XI, pp. 38, 53, 167, 174, 326; vol. XII, p. 54.
Beets, Canned. Vol. XII, p. 88.
Belladonna Leaves, Powdered. Vol. XI, p. 167, 178.
Belladonna Leaves, Tr. Vol. X, p. 251.
Belladonna, Powdered. Vol. XII, p. 10.
Beta Quinol. Vol. X, p. 212.
Beta Canthol. Vol. X, p. 212.
Better Babies Contest. Vol. X, p. 227.
Beverages. Vol. X, p. 273; vol. XI, pp. 38, 166, 245, 298, 326; vol. XII, pp. 7, 54, 56.
Beverage, Brew Malt. Vol. XII, p. 24.
Bichloride Poisoning, An Antidote for. Vol. XI, p. 335.
Biological Products, Hints to Distributors and Users of State Board of Health's. Vol. XI, p. 308.
Birth Rates. Vol. XII, pp. 102, 111.
Birth Rates, Comparison, 1912 to 1915, inclusive. Vol. XII, p. 266.
Birth Rates by Counties. Vol. XII, pp. 128, 129, 134.
Birth Registration. Vol. X, pp. 193, 325; vol. XI, p. 195; vol. XII, p. 333.

- Birth Reports, Prosecutions for Failure to Make. Vol. XII, p. 28.
Births. Vol. XII, pp. 127, 268, 270, 2, 75, 78, 278.
Births by Counties by Months. Vol. XII, pp. 272-275.
Bitter Apple. Vol. XII, p. 10.
Bitters, Wahoo. Vol. XI, p. 179.
Blackberries, Canned. Vol. XI, p. 166; vol. XII, p. 88.
Blackberry Cider. Vol. XI, pp. 40, 246.
Blackberry Cider, Imitation. Vol. XI, p. 39.
Blackberry Phosphate Cider. Vol. X, p. 278.
Black Cohosh. Vol. XII, p. 10.
Blackleg Vaccine. Vol. XI, p. 167, 179.
Black Mustard. Vol. XII, p. 10.
Black Pepper. Vol. XI, p. 326; vol. XII, p. 10.
Blind Babies. Vol. XI, p. 235.
Blindness, Cause of. Vol. XI, p. 29.
Blood Purifier XIX. Vol. XII, p. 7.
Blood Root. Vol. XII, p. 11.
Bluing, Indigo. Vol. XI, p. 249.
Boiled Linseed Oil. Vol. X, pp. 206, 250, 270; vol. XI, p. 9, 20, 167, 177.
Borothol. Vol. X, p. 210.
Bread. Vol. XI, p. 326.
Bread Wrapping. Vol. X, p. 221; vol. XI, p. 125; vol. XII, p. 46.
Boiled Chicken. Vol. XI, pp. 9, 16.
Bologna. Vol. X, p. 277.
Books on Child Hygiene. Vol. XII, p. 408.
Bottle Feeding. Vol. XI, p. 214.
Box Files (poem). Vol. XI, p. 308.
Boy's Organizations. Vol. XI, p. 285.
Bread, Unwrapped. Vol. X, p. 291.
Breads, Recipes for. Vol. XI, p. 221.
Breakfast Food, Rice. Vol. XI, p. 38.
Breast Feeding. Vol. XI, p. 212.
Brew Malt Beverage. Vol. XII, p. 24.
Bright's Disease. Vol. XII, p. 127.
Broncho-pneumonia. Vol. XII, p. 126.
Broths, Recipes for. Vol. XI, p. 223.
Brown Mixture. Vol. X, p. 251.
Buchu. Vol. XII, p. 10.
Butter. Vol. X, pp. 270, 277; vol. XI, pp. 53, 166, 169.
Butter, Apple. Vol. X, pp. 256, 270; vol. XI, pp. 9, 41, 53, 61, 166, 248.
Butter, Datanut. Vol. XI, p. 61.
Butter, Fruit. Vol. XI, pp. 6, 166.
Butter, Glucose Fruit. Vol. XI, p. 6.
Butter, Peach. Vol. X, p. 270; vol. XI, pp. 9, 41, 62, 166, 248.
Butter, Peanut. Vol. XI, p. 61.
Buttermilk. Vol. X, p. 206.
Buttermilk and Bacteria. Vol. XI, p. 331.
Button, Little Mothers' League. Vol. XII, p. 401.
Cacao and Cacao Products (Standards). Vol. XII, p. 44.
Cacao Nibs, Standards. Vol. XII, p. 44.
Calamus. Vol. XII, p. 11.
Calcined Magnesia. Vol. XI, pp. 9, 17, 167, 178.
California Honey. Vol. X, p. 270.
Camphor, Spirits of. Vol. X, pp. 206, 245, 256, 270; vol. XI, pp. 9, 16, 167, 175, 326.
Camphor, Spirit. Vol. XI, p. 326; vol. XII, pp. 9, 24.
Camphorated Oil. Vol. XI, pp. 167, 178; vol. XII, p. 24.
Cancer. Vol. X, p. 322; vol. XII, pp. 125, 310.
Cancer Morbidity. Vol. XII, pp. 349, 350, 352, 354, 356, 357, 358, 363, 364.
Cancer, Our Knowledge of. Vol. X, p. 280.
Candies. Vol. X, p. 274; vol. XI, pp. 166, 180, 245, 247.
Candy. Vol. XI, pp. 298, 326; vol. XII, pp. 7, 58.
Candy, Cod Liver Oil Cough. Vol. X, pp. 206, 244, 251.
Candy Eggs. Vol. X, p. 274.
Canned Apples. Vol. XI, p. 166; vol. XII, p. 88.
Canned Apricots. Vol. X, p. 276.
Canned Asparagus. Vol. X, p. 270; vol. XI, pp. 9, 38, 166, 170, 249; vol. XII, p. 88.
Canned Beets. Vol. XII, p. 88.
Canned Blackberries. Vol. XI, p. 166; vol. XII, p. 88.
Canned Cherries. Vol. X, p. 276; vol. XI, p. 166; vol. XII, p. 89.
Canned Chile Con Carne. Vol. XI, pp. 53, 166.
Canned Corn. Vol. XI, pp. 171, 245, 247; vol. XII, p. 87.
Canned Fruits. Vol. XI, p. 166; vol. XII, pp. 24, 64.
Canned Goods. Vol. XII, p. 7.
Canned Goods, Bacteriological Examination of. Vol. XII, p. 71.
Canned Greens. Vol. XII, p. 87.
Canned Hominy. Vol. XII, p. 88.
Canned Peaches. Vol. X, p. 276; vol. XI, pp. 166, 247; vol. XII, p. 87.
Canned Pears. Vol. X, p. 276.

- Canned Peas. Vol. XI, pp. 166, 171.
 Canned Pumpkin. Vol. XII, p. 87.
 Canned Raspberries. Vol. XI, p. 166; vol. XII, p. 89.
 Canned Sardines. Vol. X, p. 270.
 Canned Strawberries. Vol. XII, p. 89.
 Canned Sweet Potatoes. Vol. XII, pp. 24, 87.
 Canned Tomatoes. Vol. X, p. 276; vol. XII, p. 87.
 Canned Vegetables. Vol. XI, p. 166; vol. XII, pp. 54, 69.
 Canning Compound. Vol. X, p. 277.
 Cantharides, Powdered. Vol. XI, pp. 167, 178.
 Canthrox. Vol. X, p. 211.
 Cape Aloes. Vol. XII, p. 11.
 Capo Oil. Vol. X, p. 211.
 Capsicum. Vol. XI, pp. 298, 326; vol. XII, p. 9.
 Capsicum, Powdered. Vol. XI, pp. 167, 179, 326.
 Capthol. Vol. X, p. 211.
 Carbohc Acid. Vol. XI, pp. 167, 326; vol. XII, pp. 7, 14, 24.
 Cardamon. Vol. XII, p. 10.
 Care of Body in Winter. Vol. X, p. 295.
 Care of Special Organs, Baby. Vol. XI, p. 205.
 Cartoons. Vol. X, pp. 200, 248, 262; vol. XI, pp. 48, 80, 157, 192, 199, 256, 272.
 Cascarilla Tonic. Vol. X, pp. 245, 253.
 Cases Filed with County Attorneys. Vol. X, p. 246.
 Cassidy's Herbs. Vol. XI, pp. 179, 298; vol. XII, p. 12.
 Castor Oil. Vol. XI, pp. 9, 18, 38, 53, 167, 173.
 Castor Oil, Aromatic. Vol. XI, pp. 9, 18, 38.
 Catsup. Vol. X, pp. 206, 243, 277; vol. XI, pp. 9, 60; vol. XII, p. 61.
 Cause of the Babies (poem). Vol. X, p. 232.
 Cause of Blindness. Vol. XI, p. 29.
 Cause of Colds. Vol. XI, p. 27.
 Cause of Deaths. Vol. XII, pp. 105, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 234, 238, 242, 246, 250, 254, 258, 262.
 Caveat Emptor. Vol. X, p. 194.
 Cayenne. Vol. XI, 326; vol. XII, p. 9.
 Cayenne Pepper. Vol. XI, pp. 166, 179; vol. XII, p. 13.
 Celery. Vol. XI, p. 298; vol. XII, p. 70.
 Celery Relish. Vol. X, pp. 243, 277.
 Celery Seed. Vol. XI, p. 326; vol. XII, p. 11.
 Cereals, Recipes for. Vol. XI, p. 221.
 Cerol. Vol. X, p. 210.
 Certified Babies. Vol. XI, p. 230; vol. XII, p. 394.
 Certified Dyes. Vol. XII, p. 45.
 Charts. Vol. XI, pp. 314, 316, 318.
 Chart, Infant Mortality. Vol. X, p. 189; vol. XI, p. 196.
 Chart, Measles and Whooping Cough. Vol. X, p. 286.
 Chart for Rabies. Vol. XII, pp. 313, 314.
 Charts, Vital Statistics. Vol. XII, pp. 109, 121.
 Checkers, Pop-corn Confection. Vol. XI, p. 42.
 Cheese. Vol. XII, pp. 61, 71.
 Chemistry of Waters in Sumner County. Vol. XI, p. 134.
 Cherries, Canned. Vol. X, p. 276; vol. XI, p. 166; vol. XII, p. 89.
 Cherry Extract. Vol. XI, p. 245.
 Cherry Jam. Vol. XI, pp. 166, 248.
 Chicken, Boiled. Vol. XI, pp. 9, 16.
 Chicken Feed. Vol. X, p. 277.
 Chickens, Dry Picked *vs.* Scalded. Vol. XI, p. 266.
 Chickenpox and Smallpox. Vol. X, p. 300.
 Child Hygiene, Books and Pamphlets on. Vol. XII, p. 408.
 Child Hygiene, Correspondence Course in. Vol. XII, p. 406.
 Child Hygiene, First Annual Report of Division. Vol. XII, p. 414.
 Child Hygiene for Mothers. Vol. XI, p. 286.
 Child Hygiene Stations. Vol. XI, p. 231; vol. XII, p. 390.
 Child's Declaration of Rights. Vol. XI, p. 195.
 Chile Con Carne, Canned. Vol. XI, pp. 53, 166.
 Chili Powders. Vol. XI, p. 245; vol. XII, p. 14.
 Chocolate. Vol. X, p. 274; vol. XI, p. 247.
 Chocolate, Bitter. Vol. XI, pp. 166, 247.
 Chocolate, Standards. Vol. XII, p. 44.
 Chocolate, Sweet. Vol. XI, pp. 166, 247.
 Cider. Vol. X, pp. 243, 270; vol. XI, pp. 9, 38, 39, 166, 245, 326; vol. XII, pp. 24, 56.
 Cider, Blackberry. Vol. XI, pp. 40, 246.
 Cider, Imitation. Vol. XI, pp. 9, 38, 246.
 Cider, Imitation Blackberry. Vol. XI, p. 39.
 Cider, Peach. Vol. XI, p. 40.
 Cider Vinegar. Vol. X, p. 206; vol. XI, pp. 59, 249.
 Cigarettes *vs.* Automobiles. Vol. XI, p. 827.
 Cinchona, Powdered. Vol. XII, p. 11.

- Citric Acid. Vol. X, p. 256; vol. XI, pp. 15, 167, 178.
 Citrox. Vol. X, p. 210.
 Clearola. Vol. X, p. 210.
 Clean-up Days. Vol. XI, pp. 79, 225.
 Clothing, Baby. Vol. XI, p. 206.
 Cloves. Vol. XI, p. 326; vol. XII, p. 11.
 Coca Cola. Vol. XII, p. 71.
 Coco Cola. Vol. XII, p. 71.
 Cocoa. Vol. X, pp. 256, 270; vol. XI, pp. 9, 40, 166, 245, 247.
 Cocoa, Fluid Extract of. Vol. X, p. 270; vol. XI, p. 15.
 Cocoas. Vol. XII, p. 61.
 Codeine Tablets. Vol. XI, pp. 167, 178.
 Cod Fish. Vol. XI, pp. 58, 166.
 Cod Liver Oil. Vol. XI, pp. 9, 16, 53, 178.
 Cod Liver Oil Compound, Hagie's Cordial of the Extract. Vol. XI, p. 179.
 Cod Liver Oil Cough Candy. Vol. X, pp. 206, 244, 251.
 Cod Liver Oil, Extract of. Vol. XI, p. 167.
 Cod Liver Oil, Wampole's Perfected and Tasteless Preparation of. Vol. XI, p. 179.
 Coffee. Vol. XI, p. 326.
 Coffee and Cacao Products (standards). Vol. XII, p. 44.
 Coffee, Granulated "Areotite." Vol. X, p. 270.
 Coffee, Ground. Vol. X, pp. 206, 246.
 Coffee, Prepared. Vol. X, pp. 206, 245, 253.
 Coffee, Roasted. Vol. XI, p. 20.
 Coffee, Vacuum Packed. Vol. XII, p. 11.
 Coined Words. Vol. X, p. 209.
 Cohosh, Black. Vol. XII, p. 10.
 Coke. Vol. X, p. 252.
 Coke Soda Pop. Vol. X, p. 273.
 Cold Compound, Pape's. Vol. XI, p. 16.
 Cold, That (story). Vol. XII, p. 92.
 Colds, Causes of. Vol. XI, p. 27.
 Colds and Influenza. Vol. X, p. 320.
 Color, Births by Counties and. Vol. XII, pp. 268, 270.
 Color, Cause of Death by. Vol. XII, pp. 250, 254.
 Color, Deaths by Counties and. Vol. XII, pp. 160, 163.
 Color, Food. Vol. X, pp. 206, 256, 274; vol. XI, p. 42.
 Columbo, Powdered. Vol. XII, p. 10.
 Communicable Diseases, Safety First. Vol. XII, p. 26.
 Compensation for Typhoid Fever. Vol. XII, p. 20.
 Complaints of Infants. Vol. X, p. 310.
 Compound, Canning. Vol. X, p. 277.
 Compound Extract of Vanilla, Coumarin and Vanillin. Vol. X, p. 270.
 Compound Licorice Powder. Vol. X, p. 256; vol. XI, pp. 15, 38, 178; vol. XII, p. 24.
 Compound Pine Tar Cough Syrup. Vol. XII, p. 12.
 Compound Tincture of Gentian. Vol. X, p. 270.
 Concentrated Milk. Vol. XI, p. 6.
 Condemned Scales, Weights and Measures. Vol. X, p. 191; vol. XI, pp. 12, 37, 55, 167, 181.
 Condensed Milk. Vol. XI, pp. 6, 170.
 Condensed Mince Meat. Vol. XI, p. 6.
 Condiments, Pickles, etc. Vol. XI, p. 59.
 Cones. Vol. X, p. 274.
 Confidential Registry, Mother's. Vol. XII, p. 405.
 Conjugal Condition, Cause of Deaths by. Vol. XII, pp. 250-254.
 Conjugal Condition, Deaths by Counties and. Vol. XII, pp. 160, 163.
 Consumption. Vol. X, p. 324.
 Corn, Canned. Vol. XI, pp. 171, 245, 247; vol. XII, p. 87.
 Corn Flour. Vol. XI, p. 168.
 Corn Meal. Vol. XI, p. 53.
 Corn, Sugar. Vol. X, p. 274.
 Corn Syrup Apple Butter Compound. Vol. XI, p. 248.
 Corn Syrup and Sorghum. Vol. X, p. 276; vol. XII, pp. 54, 71.
 Contest, Better Babies. Vol. X, p. 227.
 Contests, Intercity. Vol. XII, p. 385.
 Contests, Intercounty. Vol. XII, p. 385.
 Correspondence Course in Child Hygiene. Vol. XII, p. 406.
 Cost of Operation of Child Hygiene Stations. Vol. XII, p. 393.
 Cotton Seed Oil. Vol. X, p. 245.
 Cough Syrup. Vol. XI, p. 326.
 Cream. Vol. XI, pp. 38, 53, 166, 245.
 Cream of Tartar. Vol. X, pp. 244, 245.
 Cream of Tartar Baking Powder. Vol. X, p. 273.
 Cross Eyes. Vol. XI, p. 333.
 Crude and Powdered Drugs. Vol. XI, p. 326; vol. XII, p. 7.
 Crude Pyroligneous Acid. Vol. X, p. 270.
 Crusade against Flies. Vol. X, p. 236.
 Cubeb. Vol. XII, p. 11.
 Culver's Root. Vol. XII, p. 11.

- Currants, Dried. Vol. XI, p. 40.
Cuticle Acid. Vol. X, p. 210.
Dairy, Flyless. Vol. XI, p. 122.
Dairy Inspection. Vol. XI, p. 94.
Dandelion and Sarsaparilla Compound. Vol. X, p. 270.
Dandruff, Anti. Vol. XII, p. 12.
Datenut Butter. Vol. XI, p. 61.
Day of Rest and Human Efficiency. Vol. XI, p. 255.
Death, Cause of. Vol. XII, pp. 105, 166, 168 to 224, inclusive., 234, 238, 242, 246, 250, 254, 258, 262.
Death Rates. Vol. XII, pp. 101, 108, 111, 132, 136, 226, 228, 230, 232.
Deaths. Vol. XII, pp. 141, 144, 146, 148, 150, 152, 154, 156, 158, 160, 163, 166, 278.
Decalogue, A Sick Room. Vol. XI, p. 332.
Decalogue, Spring. Vol. XII, p. 46.
Delatone. Vol. X, p. 212.
Delinquent Prosecutions. Vol. X, pp. 208, 247; vol. XI, p. 180.
Delol. Vol. X, p. 212.
Dental Inspection, Legislation Concerning. Vol. XI, p. 74.
Desserts, Recipes for. Vol. XI, p. 223.
Diagram, Prevention of Child Mortality. Vol. XII, p. 379.
Diarrhoea and Enteritis, Under Two Years. Vol. XII, p. 126.
Digestive Compound Elixir. Vol. XI, p. 178; vol. XII, p. 54.
Dilute Hydrochloric Acid. Vol. XI, pp. 9, 15, 38, 167, 173; vol. XII, p. 11.
Diphtheria. Vol. XII, pp. 119, 305, 339, 342.
Diphtheria Antitoxin, Use. Vol. XII, p. 306.
Diphtheria and Scarlet Fever. Vol. X, p. 316.
Diphtheria, Prevalence of. Vol. X, p. 277.
Diploma, Little Mothers' League. Vol. XII, p. 404.
Dirty Hands and Sickness. Vol. XI, p. 267.
Dirty Hands, Typhoid Fever and. Vol. X, p. 213.
Disease, A Human Case of Foot and Mouth. Vol. XI, p. 311.
Disease, Prevalence of. Vol. XII, p. 295.
Diseases of Infancy and Childhood. Vol. XI, p. 198.
Diseases, Occupational. Vol. XII, p. 315.
Diseases, Venereal. Vol. XII, p. 315.
Disinfectant, Sandol. Vol. XI, pp. 38, 179.
Dispensing of Milk. Vol. XII, p. 392.
Display Pages. Vol. X, pp. 200, 232, 248, 262, 296, 328; vol. XI, pp. 32, 48, 80, 128, 160, 192, 240, 256, 272, 304, 320, 336; vol. XII, pp. 16, 32, 48, 80, 96, 420.
Distribution of Antitoxins and Vaccines to Indigent Poor of the State, Free. Vol. XI, p. 269.
Division of Child Hygiene. Vol. XI, p. 182.
Division of Child Hygiene, Legislation Concerning. Vol. XI, p. 73.
Division of Child Hygiene, Report of. Vol. XII, p. 414.
Division of Communicable Diseases and Sanitation. Vol. XII, p. 293.
Division of Food and Drugs, Report. Vol. X, pp. 204, 241, 268; vol. XI, pp. 8, 36, 52, 164, 244, 296, 324; vol. XII, pp. 4, 24, 54.
Division of Vital Statistics, Report. Vol. XII, p. 101.
Dried Apples. Vol. XI, p. 40; vol. XII, pp. 7, 61.
Dried Apricots. Vol. X, p. 270; vol. XI, pp. 40, 247.
Dried Currants. Vol. XI, p. 40.
Dried Fruit. Vol. XII, p. 61.
Dried Peaches. Vol. X, p. 270; vol. XI, pp. 40, 247.
Drug Analyses. Vol. X, pp. 244, 250; vol. XI, pp. 13, 38, 166.
Drugs, Crude. Vol. XI, p. 326; vol. XII, p. 7.
Drugs, Crude and Powdered. Vol. XI, p. 326.
Drug Prosecutions. Vol. XI, p. 12.
Doctors, Public Health. Vol. XII, p. 389.
Doctor, The (poem). Vol. XI, p. 304.
Dyes, Certified. Vol. XII, p. 45.
Economical Value of Visiting Nurse Work. Vol. XII, p. 21.
Educational Campaigns. Vol. XI, p. 226.
Efficiency of Health Officers. Vol. XII, p. 294.
Efficiency of Registration. Vol. XII, p. 102.
Egg-breaking Plants, Inspection for. Vol. XI, p. 183.
Egg Noodles. Vol. XII, p. 44.
Egg Regulation. Vol. XII, p. 45.
Egg Saver. Vol. XII, pp. 54, 71.
Eggs, Recipes for. Vol. XI, p. 221.
Elcampane. Vol. XII, p. 10.
Electrically Treated Water. Vol. XI, p. 327.
Elixir Digestive Compound. Vol. XI, pp. 53, 178; vol. XII, p. 54.
Elixir of Heroin and Terpene Hydrate. Vol. XII, pp. 7, 11.
Elixir of Nitroglycerin. Vol. X, p. 251.
Elixir of Nitroglycerin Compound. Vol. X, p. 252.
Elixir of Pepsin. Vol. X, p. 251.
Elixir Peptone. Vol. XII, p. 24.
Elixir of Pyrophos of I. Q. & S. Vol. XI, p. 167.

- Elm Bark. Vol. XII, p. 11.
 El Rado. Vol. X, p. 212.
 Emergency Room for Mothers. Vol. XI, pp. 184, 185.
 Enteritis under Two years. Vol. XII, p. 126.
 Epidemics. Vol. XII, p. 304.
 Epigrams. Vol. X, pp. 185, 201, 227, 228, 233, 247, 265, 301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 326; vol. XI, pp. 1, 33, 49, 81, 129, 161, 240, 241, 257, 273, 308, 305, 321, 332; vol. XII, pp. 1, 17, 33, 47, 49, 81, 420.
 Epp-o-tone. Vol. X, p. 210.
 Epsom Salts. Vol. X, p. 210.
 Epsom Salts, Tasteless. Vol. XII, p. 24.
 Eptol. Vol. X, p. 210.
 Equipment of Welfare Stations. Vol. XII, p. 392.
 Essence of Peppermint. Vol. X, pp. 251, 256, 270, 275; vol. XI, pp. 15, 167, 175; vol. XII, p. 24.
 Essence of Pepsin. Vol. X, pp. 206, 244, 250; vol. XI, pp. 17, 167, 173.
 Evaporated Apples. Vol. XI, pp. 6, 166, 245; vol. XII, p. 61.
 Evaporated Apricots. Vol. XI, p. 245.
 Evaporated Fruits. Vol. XI, pp. 9, 166, 245.
 Evaporated Milk. Vol. XI, pp. 6, 53, 166.
 Evaporated Peaches. Vol. XI, pp. 166, 245, 247.
 Evaporated Pears. Vol. XI, pp. 38, 247.
 Evaporated Prunes. Vol. XI, p. 245.
 Examinations, Baby. Vol. XI, p. 227.
 Exercise (poem). Vol. XII, p. 31.
 Exhibit. Vol. XI, p. 234.
 Exhibit, Health. Vol. XII, p. 406.
 Exhibit, Infant's Layette. Vol. XII, p. 410.
 Extract, Almond. Vol. XI, p. 9.
 Extract, Banana. Vol. X, p. 275.
 Extract of Cherry. Vol. XI, p. 245.
 Extract of Cocoa, Fluid. Vol. X, p. 270.
 Extract of Cod Liver Oil. Vol. XI, p. 167.
 Extracts and Flavors. Vol. XII, p. 61.
 Extracts, Fluid. Vol. XII, pp. 24, 54.
 Extract, Imitation Lemon. Vol. X, p. 243.
 Extract Kola. Vol. X, pp. 206, 252.
 Extract of Lemon. Vol. X, pp. 206, 243, 256, 270, 275; vol. XI, pp. 9, 53, 298; vol. XII, pp. 24, 54.
 Extracts, Miscellaneous. Vol. XI, p. 326; vol. XII, p. 54.
 Extract, Orange. Vol. X, p. 270.
 Extract of Pineapple. Vol. XI, p. 298.
 Extract, Raspberry. Vol. XI, p. 166.
 Extract, Strawberry. Vol. X, p. 275; vol. XI, p. 166.
 Extract of Terpeneless Lemon. Vol. XII, p. 7.
 Extract of Vanilla. Vol. X, pp. 206, 243, 256, 275; vol. XI, pp. 41, 166, 248, 298, 326; vol. XII, p. 24.
 Extract of Vanilla and Tonka. Vol. XI, p. 326; vol. XII, p. 7.
 Extract of Witch Hazel. Vol. XI, pp. 167, 178.
 Eyes, Cross. Vol. XI, p. 333.
 Eyes, How Movies Affect. Vol. XI, p. 28.
 Eyes, Soreness Caused by Face Powder. Vol. XI, p. 253.
 Eyes, Spots before. Vol. XI, p. 254.
 Eye Strain after Measles, Scarlet Fever and Allied Diseases. Vol. XI, p. 253.
 Facsimile, Baby Certificate. Vol. XII, p. 394.
 Fairs, Babies and. Vol. XII, p. 399.
 Falfa Syrup. Vol. XI, pp. 53, 166.
 Fathers' Clubs. Vol. XI, p. 237.
 Father's Tribute. Vol. XII, p. 34.
 Febriline. Vol. X, p. 253.
 Feeble-mindedness. Vol. XI, pp. 22, 45.
 Feeding after First Year, Infant. Vol. XI, p. 218.
 Feeding during First Year, Infant. Vol. XI, p. 218.
 Feeding Table. Vol. XI, p. 220.
 Files, Box (poem). Vol. XI, p. 303.
 Films and Lectures. Vol. XI, p. 233.
 Fireless Cooker, Home-made. Vol. XI, p. 219.
 Fire Protection and Health Protection. Vol. XI, p. 78.
 Fish. Vol. XII, p. 7.
 Fish, Boneless Salt. Vol. XII, p. 7.
 Fish, Cod. Vol. XI, pp. 58, 166.
 Fish, Salmon. Vol. XI, p. 58.
 Fish, Tuna. Vol. XII, pp. 7, 71.
 Flavor, Imitation Lemon. Vol. XII, p. 24.
 Flavoring, Superior. Vol. X, p. 275.
 Flavoring Syrups. Vol. XI, p. 298.
 Flavors, See Extracts.
 Flies and Mosquitoes. Vol. X, p. 312.

- Flies, Migration of. Vol. XI, p. 268.
Flies, Po. Blistering. Vol. X, p. 270; vol. XI, p. 15.
Flour. Vol. X, p. 206; vol. XI, pp. 58, 166, 249.
Flour, Corn. Vol. XI, p. 168.
Flour, Graham. Vol. X, pp. 256, 277; vol. XI, pp. 9, 168, 298, 326; vol. XII, p. 70.
Flour, Pancake. Vol. X, p. 270; vol. XI, pp. 9, 166, 168; vol. XII, pp. 7, 54.
Flour, Wheat. Vol. X, p. 256; vol. XI, p. 168.
Flowers of Oxxion. Vol. X, p. 210.
Fluid Extract of Cocoa. Vol. X, p. 270; vol. XI, p. 15.
Fluid Extracts, Miscellaneous. Vol. XII, p. 54.
Fly Crusades. Vol. X, p. 236.
Flyless Dairy. Vol. XI, p. 122.
"Foamers" for Soda Pop. Vol. X, pp. 206, 256, 275.
Foamigator. Vol. XI, p. 42.
Food and Drugs, Analyses. Vol. X, pp. 206, 241, 243, 270, 273; vol. XI, pp. 9, 38, 53, 55, 166, 167, 172, 245, 298; vol. XII, pp. 7, 24, 55.
Food and Drug Law, Amendments to. Vol. XI, p. 6.
Food and Drugs, Report. Vol. X, pp. 204, 241, 268; vol. XI, pp. 8, 36, 52, 164, 244, 296, 324; vol. XII, pp. 4, 24, 54.
Food Color. Vol. X, pp. 206, 256, 274; vol. XI, p. 42.
Food Standards and Regulations, New. Vol. XII, p. 44.
Food Standards, Test of Supreme Court. Vol. XI, p. 62.
Food, Unwholesome (supreme court decisions). Vol. X, p. 289.
Foods, Use of Saccharin in. Vol. XI, p. 308.
Foot and Mouth Disease. Vol. X, p. 282.
Foot and Mouth Disease, Influence on Milk. Vol. XI, p. 115.
Foot and Mouth Disease, A Human Case. Vol. XI, p. 311.
Fraud. Vol. X, p. 194.
Fraudulent Advertisements, Legislation Concerning. Vol. XI, p. 75.
Freckle Cream. Vol. X, p. 210.
Fresh Air Baby. Vol. XI, p. 201.
Fresh Air Cure. Vol. XI, p. 26.
Fresh Oysters. Vol. XII, p. 71.
Free Distribution of Antitoxin and Vaccines to the Indigent Poor of the State. Vol. XI, p. 269.
Fruit and Fruit Juices, Recipes for. Vol. XI, p. 221.
Fruit and Fruit Products. Vol. XI, pp. 6, 41.
Fruit Butter. Vol. XI, pp. 6, 61, 166, 248.
Fruit Butter, Glucose. Vol. XI, p. 6.
Fruit-jar Caps. Vol. XI, p. 25.
Fruits. Vol. X, p. 276; vol. XI, p. 326.
Fruits and Vegetables. Vol. XI, p. 6.
Fruits, Canned. Vol. XI, pp. 166, 247; vol. XII, pp. 24, 64.
Fruits, Evaporated. Vol. XI, pp. 9, 41, 166, 247.
Fruit Syrups. Vol. XI, p. 245.
Fumigator Preservo. Vol. XI, p. 53.
Gas in "Springers" and "Swells." Vol. XII, p. 84.
Gaultheria, Oil. Vol. X, p. 206.
Gentian. Vol. XII, p. 10.
Gentian Compound, Tr. of. Vol. X, p. 270; vol. XI, p. 15.
Geology of Waters in Sumner County. Vol. XI, p. 184.
Gerrard's Royal Liquid Shampoer. Vol. X, p. 211.
Gherkins. Vol. XI, p. 249.
Ginger. Vol. X, p. 270.
Ginger Ale. Vol. XI, pp. 245, 298, 326; vol. XII, p. 56.
Ginger Beer. Vol. XII, p. 7.
Ginger Beer Syrup. Vol. XII, p. 70.
Ginger, Ground. Vol. XI, p. 9.
Ginger, Jamaica. Vol. X, p. 251; vol. XI, p. 166; vol. XII, pp. 7, 9, 10.
Ginger, Powdered. Vol. XI, p. 19.
Ginger, Standard for. Vol. XI, p. 14.
Ginger Syrup. Vol. XII, p. 7.
Ginger, Tr. of. Vol. X, p. 270; vol. XI, pp. 17, 167, 177, 245.
Glaze, White. Vol. XII, p. 70.
Gloriol Glowene. Vol. X, p. 210.
Glucose Fruit Butter. Vol. XI, p. 6.
Glucose Jelly. Vol. XI, p. 6.
Gluten Foods and Flours. Vol. XII, p. 24.
Graham Flour. Vol. X, pp. 256, 277; vol. XI, pp. 9, 168, 298, 326; vol. XII, p. 70.
Granulated Coffee "Areotite." Vol. X, p. 270.
Granulated Effervescent Aspirin. Vol. X, p. 252; vol. XI, pp. 38, 179.
Grapefruit. Vol. XI, p. 326; vol. XII, pp. 7, 65.
Grape Juice. Vol. X, p. 273; vol. XI, p. 245; vol. XII, p. 56.
Grape Tango Beverage. Vol. XI, pp. 166, 246.
Grapine. Vol. X, p. 278.
Grapine Nectar Compound. Vol. XI, pp. 166, 248.
Grapine Syrup. Vol. XI, pp. 166, 248.
Graperite Acid Solution. Vol. XI, p. 180.

- Greens. Vol. XII, p. 87.
 Grip, "The Popular Disease" (poem). Vol. XII, p. 29.
 Ground coffee. Vol. X, pp. 206, 248.
 Growing Child, Needs of. Vol. XI, p. 43.
 Golden Robin Temperance Beer. Vol. XI, p. 179.
 Gopher Poison. Vol. XI, pp. 167, 180.
 GumAsafœtida. Vol. XI, pp. 53, 174.
 Gum Asafœtida, Powdered. Vol. XI, p. 167.
 Gum, Pepsin. Vol. X, pp. 206, 244, 250, 270; vol. XI, p. 14.
 Habits, Training and Discipline. Vol. XI, p. 208.
 Hagee's Cordial of the Extract of Cod Liver Oil Compound. Vol. XI, p. 179.
 Hair, Singeing the. Vol. XI, p. 328.
 Hairwand. Vol. X, p. 211.
 Hands, Sickness and Dirty. Vol. XI, p. 267.
 Hay Fever Ordinance. Vol. XII, p. 78.
 Hay's Hair Health. Vol. X, p. 211.
 Hay Fever Weeds and How They May be Recognized. Vol. XII, p. 93.
 Head Rice. Vol. XII, p. 70.
 Health, An Account in the Bank of. Vol. XI, p. 260.
 Health Commandments. Vol. XI, p. 22.
 Health Exhibit. Vol. XI, p. 234; vol. XII, p. 406.
 Health Maxims. Vol. X, pp. 227, 228, 326; vol. XI, p. 271; vol. XII, p. 47.
 Health Officers. Vol. X, p. 195; vol. XI, pp. 21, 226.
 Health Officers, Junior. Vol. XI, p. 235; vol. XII, p. 395.
 Health Officers, Junior Regulations. Vol. XII, p. 398.
 Health Officers, School for. Vol. XI, p. 31; vol. XII, p. 26.
 Health Organization in Sumner County. Vol. XI, p. 156.
 Health Questions and Answers. Vol. XII, p. 30.
 Health, Work is. Vol. XII, p. 90.
 Healthy Country, Kansas is a. Vol. XI, p. 295.
 Heart Disease, Organic. Vol. XII, p. 125.
 Heart Tonic Tablets. Vol. XI, p. 38.
 Hellebore, Powdered. Vol. XII, p. 10.
 Herbs, Cassidy's. Vol. XI, p. 179; vol. XII, p. 12.
 Heredity vs. Food in Development. Vol. XI, p. 124.
 Heroin and Terpene Hydrate, Elixir of. Vol. XII, pp. 7, 11.
 Herpicide. Vol. X, p. 212.
 Herring, Kippered. Vol. XI, p. 9, 42.
 Herring, Spiced. Vol. XI, p. 326.
 Hofstra Insect Destroyer. Vol. XII, p. 11.
 Hog and Hominy. Vol. X, p. 256.
 Home-made Fireless Cooker. Vol. XI, p. 219.
 Hominy. Vol. XI, pp. 9, 42, 166, 249, 298; vol. XII, p. 88.
 Honey. Vol. X, pp. 270, 276; vol. XI, pp. 9, 41; vol. XII, pp. 7, 66.
 Horseradish Cream, Bayle. Vol. X, p. 277.
 Hospitals. Vol. XI, p. 225.
 Hospital Babies. Vol. XII, p. 413.
 Housing, Bad. Vol. XI, p. 224.
 How did You Take It (poem). Vol. XII, p. 48.
 How It Happened. Vol. XII, p. 28.
 "How to be Ready." Vol. XII, p. 80.
 How to Cure a Cold (poem). Vol. XI, p. 43.
 Human Efficiency and Day of Rest. Vol. XI, p. 255.
 Hydrochloric Acid, Dilute. Vol. XI, pp. 9, 15, 38, 167, 178.
 Hydrogen Peroxide. Vol. X, p. 270; vol. XI, pp. 38, 167, 177.
 Hydroleum, Liquid. Vol. XII, p. 14.
 Hydro-mineral, Rocky Mountain. Vol. XI, pp. 38, 179.
 Hygiene in Schools. Vol. X, p. 318.
 Po-Hvoscyamus. Vol. XI, pp. 167, 178.
 Hypolite's Snow Mellow. Vol. X, p. 277.
 Ice, the Periodical Examination of. Vol. XI, p. 293.
 Ice Cream. Vol. X, p. 206; vol. XI, pp. 9, 53, 56, 166, 245, 298, 326; vol. XII, pp. 7, 66.
 Ice-cream Powder. Vol. XI, p. 171.
 Ice-cream Powder, Jello. Vol. XI, p. 171.
 Ice, Rules and Regulations Governing Collection of Samples and Analysis of. Vol. XI, p. 294.
 Ideal Health Beer. Vol. X, pp. 243, 253.
 Ideal Sausage Flavor. Vol. XI, p. 53.
 Illustrated Lectures and Films, List. Vol. XII, p. 410.
 Illustrations. Vol. XII, pp. 375, 382, 386, 388, 399, 403, 407, 410, 413.
 Imitation Bear's Oil. Vol. X, p. 252.
 Imitation Blackberry Cider. Vol. XI, p. 39.
 Imitation Cider. Vol. XI, pp. 9, 38, 246.
 Imitation Kola. Vol. X, pp. 206, 252.
 Imitation Lemon Extract. Vol. X, p. 243.
 Imitation Lemon Flavor. Vol. XII, p. 24.
 Imitation Maple Flavor. Vol. X, p. 270; vol. XI, p. 41.
 Imitation Peppermint. Vol. X, p. 252.

- Imported Cases of Typhoid. Vol. XII, p. 303.
Index to Child Hygiene, Bulletin. Vol. XII, p. 419.
Indigo Bluing. Vol. XI, p. 249.
Infancy and Childhood, Diseases of. Vol. XI, p. 198.
Infant, see Baby.
Infant Feeding, Recipes for. Vol. XI, p. 219.
Infant Mortality. Vol. X, p. 188; vol. XI, p. 195; vol. XII, pp. 117, 278, 376, 377, 380.
Infant Mortality Chart. Vol. X, p. 189; vol. XI, p. 196.
Infant Welfare Campaigns. Vol. XII, p. 390.
Infant's Complaints. Vol. X, p. 310; vol. XI, p. 198.
Infants' Department in Stores. Vol. XII, p. 400.
Infant's Layette Exhibit. Vol. XII, p. 410.
Influenza and Colds. Vol. X, p. 320.
Insect Destroyer. Vol. XII, pp. 11, 12.
Insect Powder. Vol. XI, p. 298.
Inspection for Egg-breaking Plants. Vol. XI, p. 183.
Inspection of Dairies, Score Card. Vol. XI, p. 93.
Inspection of Milk. Vol. XI, p. 224.
Inspection of Milk, Score Card. Vol. XI, p. 94.
Inspection Scales, Weights and Measures. Vol. X, p. 207.
Inspection of Stables. Vol. XI, p. 225.
Inspections, Sanitary, Food and Drugs. Vol. X, pp. 205, 242, 269; vol. XI, pp. 8, 37, 52, 244, 297, 325; vol. XII, pp. 5, 55.
Instant Postum. Vol. XI, pp. 53, 179.
Intercity Contest. Vol. XII, p. 385.
Intercounty Contest. Vol. XII, p. 385.
Iodine, Tr. of. Vol. X, p. 270; vol. XI, pp. 9, 16, 38, 167, 175.
I Remember. Vol. XI, p. 386.
Iron Pyrophosphate, Quinine and Strychnine. Vol. XI, p. 178.
"Is It Nothing to You, Ye Who Pass By?" (poem). Vol. XI, p. 334.
"It is Well with the Boy" (poem). Vol. XII, p. 32.
Jam. Vol. XI, pp. 166, 245, 248, 298, 326; vol. XII, p. 66.
Jam, Cherry. Vol. XI, pp. 166, 248.
Jam, Strawberry. Vol. XI, pp. 166, 248.
Jamaica Ginger. Vol. X, p. 251; vol. XI, p. 166; vol. XII, pp. 7, 9, 10.
Jellō Ice-cream Powder. Vol. XI, p. 171.
Jelly, Apple. Vol. X, p. 270; vol. XI, p. 9.
Jelly, Glucose. Vol. XI, pp. 6, 41.
Jellies. Vol. XI, pp. 245, 298, 326; vol. XII, pp. 66, 71.
Jingo Beer. Vol. X, pp. 243, 274.
Junior Health Officers. Vol. XI, p. 235; vol. XII, p. 395.
Junior Health Officer's Report to County Health Officer (blank). Vol. XII, p. 396.
Kaffee Hag. Vol. X, p. 256.
Kamethol. Vol. XI, p. 245; vol. XII, p. 11.
Kansas' Best Crop. Vol. XII, p. 382.
Kansas, Infant Mortality. Vol. XII, pp. 380, 281.
Kansas is a "Healthy Country." Vol. XI, p. 295.
Kansas School of Public Health Education. Vol. XI, p. 291.
Knowledge of Cancer. Vol. X, p. 280.
Kola Extract. Vol. X, pp. 206, 252.
Kala, Imitation. Vol. X, pp. 206, 252.
Kraut, Canned. Vol. XII, p. 88.
Kulux Compound. Vol. X, p. 211.
Laboratory, Work of the Bacteriological. Vol. XII, pp. 316, 370.
Lard. Vol. X, p. 256; vol. XI, p. 326.
Layette Exhibit, Infant's. Vol. XII, p. 410.
Lectures and Films. Vol. XI, p. 283.
Lectures, List of Illustrated, and Films. Vol. XII, p. 410.
Legal Liability of Water Company. Vol. XI, p. 270.
Legislation, Public Health. Vol. XI, p. 73.
Legislation, Suggestions for Division of Child Hygiene. Vol. XII, p. 416.
Lemon Extract. Vol. X, pp. 206, 243, 256, 270, 275; vol. XI, pp. 9, 53, 245, 298; vol. XII, pp. 24, 54.
Lemon, Extract of Terpeneless. Vol. XII, p. 7.
Lemon, Oil of. Vol. XI, pp. 167, 178.
Lesson Outlines in Prenatal Care, Child Hygiene and Child Welfare. Vol. XII, pp. 411, 412.
Letter of Transmittal. Vol. XII, p. 99.
Licorice, Powdered. Vol. XII, p. 9.
Licorice Powder, Compound. Vol. X, p. 256; vol. XI, pp. 15, 38, 178; vol. XII, p. 24.
Lilly's Colorless Mineral Oil. Vol. XI, p. 326; vol. XII, p. 14.
Lima Beans. Vol. XI, p. 298.
Lime Water. Vol. XI, p. 245; vol. XII, p. 12.
Liniment. Vol. X, p. 256; vol. XI, p. 15.
Linn County, Report of a Vital-statistics Survey. Vol. XII, p. 111.
Linseed Oil, Boiled. Vol. X, pp. 206, 250, 270; vol. XI, pp. 20, 167, 177; vol. XII, p. 54.
Linseed Oil, Raw. Vol. X, p. 206; vol. XI, pp. 9, 20, 167, 178; vol. XII, pp. 7, 54.
Liquefied Phenol. Vol. XII, p. 12.

- Liquid Hydroleum. Vol. XI, p. 326; vol. XII, p. 14.
 Liquid Petrolatum. Vol. XI, p. 326; vol. XII, p. 14.
 Liquid Petrolatum, Colorless. Vol. XI, p. 326; vol. XII, p. 14.
 Liquid Phenol. Vol. X, p. 270; vol. XI, pp. 15, 167, 173, 245.
 Liquid Smoke, Wright's. Vol. XI, pp. 53, 167; vol. XII, p. 7.
 List of Stereopticon Lectures. Vol. XII, p. 410.
 Literature for Distribution by Child Hygiene Stations. Vol. XII, p. 393.
 Little Mother's Leagues. Vol. XI, p. 234; vol. XII, p. 401.
 Location of Welfare Station. Vol. XII, p. 392.
 Lost and Found (poem). Vol. XI, p. 76.
 Lotion. Vol. XI, p. 326.
 Luxor. Vol. X, p. 210.
 Lyndon, Kan. Vol. XI, p. 335.
 Mace. Vol. XI, p. 326; vol. XII, p. 10.
 Magnesia, Calcined. Vol. XI, pp. 9, 17, 167, 178.
 Malaria. Vol. XII, p. 118.
 Maltonic Beer. Vol. X, pp. 243, 274.
 Management of Child Welfare Stations. Vol. XII, p. 392.
 Mandrake. Vol. XII, p. 9.
 Manna. Vol. XII, p. 10.
 Manufactured Meat. Vol. XI, p. 6.
 Map, Birth Rates by Counties, 1914. Vol. XII, p. 128.
 Map, Birth Rates by Counties, 1915. Vol. XII, p. 129.
 Map, Death Rates by Counties, 1914. Vol. XII, p. 109.
 Map, Death Rates by Counties, 1915. Vol. XII, p. 110.
 Map, Distribution of Rabies. Vol. XII, p. 312.
 Map, Infant Mortality for Kansas. Vol. XII, p. 381.
 Maple Cream. Vol. XII, pp. 24, 71.
 Maple Flavor, Imitation of. Vol. X, p. 270; vol. XI, p. 41.
 Maple Sugar. Vol. XI, p. 298; vol. XII, p. 70.
 Maple Syrup. Vol. X, p. 276.
 Marmola. Vol. X, p. 212.
 Marriage Licenses, Probate Judge's Report of. 280, 282, 285.
 Marriage Rates Per One Thousand. Vol. XII, p. 288.
 Marriages. Vol. XII, pp. 127, 288.
 Marshmallow Brand Syrup. Vol. XII, p. 71.
 Maxims. Vol. X, pp. 227, 228, 326; vol. XI, pp. 271, 273, 303, 305; vol. XII, p. 420.
 May-a-tone. Vol. X, p. 210.
 Measles. Vol. XII, pp. 119, 309, 340, 345.
 Measles and Whooping Cough Chart. Vol. X, pp. 286, 304.
 Measles and Whooping Cough, Annual Toll from. Vol. X, p. 285.
 Measles, Effect on Eyes. Vol. XI, p. 253.
 Measles, How Spread. Vol. X, p. 198.
 Measures Condemned. Vol. X, p. 191; vol. XI, pp. 12, 37, 55, 167, 181, 245.
 Measures Inspected. Vol. X, pp. 207, 246; vol. XI, pp. 8, 37, 55, 167, 245, 298.
 Meal, Corn. Vol. XI, p. 53.
 Meal, Roman. Vol. XI, p. 9.
 Meat, Bologna. Vol. X, p. 277.
 Meats, Recipes for. Vol. XI, p. 222.
 Meat Seasoning Preparation. Vol. XI, p. 166.
 Meats. Vol. XI, p. 6.
 Melowa (product for ripening cream). Vol. XI, pp. 166, 249.
 Mergolized Wax. Vol. X, p. 210.
 Methods of Computing the Rating of Counties. Vol. XII, p. 387.
 Mexene. Vol. XII, p. 14.
 Milk. Vol. X, p. 270; vol. XI, pp. 6, 38, 245, 298, 326; vol. XII, p. 71.
 Milk, Bacteria in. Vol. XI, p. 86.
 Milk, Bacteriological Analyses of. Vol. XI, p. 111.
 Milk Chocolate, Standards. Vol. XII, p. 45.
 Milk, Concentrated. Vol. XI, p. 6.
 Milk, Condensed. Vol. XI, pp. 6, 170.
 Milk, Dispensing at Child Welfare Stations. Vol. XII, p. 392.
 Milk, Effect of Foot and Mouth Disease on. Vol. XI, p. 115.
 Milk, Evaporated. Vol. X, p. 206; vol. XI, pp. 6, 53, 166, 245, 298, 326.
 Milk Inspection. Vol. XI, p. 224.
 Milk, Pasteurization of. Vol. XI, p. 96.
 Milk Powder. Vol. X, p. 256; vol. XI, p. 171.
 Milk Sediment or Dirt Test. Vol. XI, p. 95.
 Milk, Skimmed. Vol. XI, pp. 92, 166.
 Milk Survey, Situation in Kansas. Vol. XI, p. 85.
 Milk, Watered. Vol. XI, p. 92.
 Milk and Cream Analyses. Vol. XI, p. 98.
 Milk and Its Products. Vol. XI, p. 6.
 Milk and Products, Standards for. Vol. XI, p. 119.
 Mince. Vol. XI, p. 6.
 Mince Meat. Vol. XI, p. 6.
 Mince Meat, Condensed. Vol. XI, p. 6.
 Mind, Sanitation of the. Vol. XII, p. 47.

- Mineral Glycerin. Vol. XII, p. 12.
 Minerol. Vol. XI, p. 326; vol. XII, p. 14.
 Miscellaneous Beverages. Vol. XI, pp. 298, 326.
 Miss Efficiency. Vol. XII, p. 410.
 Modification of Milk, Schedule for. Vol. XI, p. 217.
 Molasses. Vol. XII, p. 87.
 Morbidity Charts. Vol. XII, pp. 296, 298, 301, 302, 303.
 Morbidity and Mortality in Sumner County. Vol. XI, p. 153.
 Morbidity from Cancer. Vol. XII, pp. 349, 350, 352, 354, 356, 358, 363, 364.
 Morbidity from Pellagra. Vol. XII, pp. 347, 348, 349.
 Morbidity from Tuberculosis. Vol. XII, pp. 296, 298, 332, 333, 334, 335.
 Morbidity from Typhoid by Ages. Vol. XII, pp. 300, 301.
 Morbidity from Typhoid by Months. Vol. XII, pp. 300, 302.
 Morbidity from Typhoid, Tables. Vol. XII, pp. 336, 338.
 Morbidity Statistics. Vol. X, pp. 186, 202, 234, 248, 266; vol. XI, pp. 2, 4, 50, 82, 130, 162, 238, 242, 258, 274, 306, 322; vol. XII, pp. 2, 18, 50, 52, 82.
 Morphine Sulfate Tablets. Vol. XI, pp. 38, 178.
 Morphine Tablets. Vol. X, p. 253.
 Mortality, Infant. Vol. X, p. 188; vol. XI, p. 195; vol. XII, pp. 117, 278, 376, 377, 380.
 Mortality, Prevention of Child. Vol. XII, p. 379.
 Mosquitoes and Flies. Vol. X, p. 312.
 "Mother Goose Up to Date" (poem). Vol. XII, p. 47.
 Mother Gray's Powder for Children. Vol. X, p. 270.
 Mother of Five (poem). Vol. X, p. 230.
 Mothers, Child Hygiene for. Vol. XI, p. 236.
 Mothers' Confidential Registry. Vol. XII, p. 405.
 Mothers' Emergency Room. Vol. XI, p. 185.
 Mothers' Study Courses, Organizing. Vol. XII, p. 405.
 Movies, Effect on Eyes. Vol. XI, p. 28.
 Mustard, Black. Vol. XII, p. 10.
 Mustard, Ground. Vol. XI, p. 166.
 Mustard, Powdered. Vol. XI, p. 176; vol. XII, p. 9.
 Mustard Prepared. Vol. XII, p. 24.
 My Creed (poem). Vol. XII, p. 15.
 "My Work" (poem). Vol. XII, p. 96.
 Myrrh. Vol. XII, p. 11.
 Nativity, Cause of Deaths by. Vol. XII, pp. 250, 254.
 Nativity, Deaths Classified by. Vol. XII, pp. 160, 163.
 Nativity of Parent, Births by. Vol. XII, pp. 268, 270.
 Nativity of Tuberculosis Patients. Vol. XII, p. 297.
 Nectar (fruit). Vol. XI, p. 166.
 Needs of Growing Child. Vol. XI, p. 43.
 Negro Death Rate. Vol. XII, p. 116.
 New Food Standards and Regulations. Vol. XII, p. 44.
 Nitre, Spirits of. Vol. X, p. 246; vol. XI, pp. 14, 38.
 Nitre, Sweet Spirits of. Vol. X, pp. 246, 256, 270; vol. XI, pp. 9, 17, 167, 176, 326; vol. XII, pp. 9, 24, 54.
 Nitroglycerin Compound. Vol. X, p. 252.
 Nitroglycerin Compound, Elixir. Vol. X, p. 252.
 Nitroglycerin, Elixir of. Vol. X, p. 251.
 Nitroglycerin Tablets. Vol. XI, pp. 14, 38, 167, 174, 245; vol. XII, p. 9.
 Nitroglycerin Tablets, Compound. Vol. X, pp. 206, 244, 250, 251, 252, 256, 270; vol. XI, pp. 15, 167.
 Noodles. Vol. XII, p. 44.
 Noodles, Egg. Vol. XII, p. 44.
 Noodles, Plain and Water. Vol. XII, p. 44.
 Notifiable Diseases Reports, 1914. Vol. XII, pp. 320, 322, 324.
 Notifiable Disease Reports, 1915. Vol. XII, pp. 326, 328, 330.
 Nurse, Public Health. Vol. XI, p. 226.
 Nurses, Public Health. Vol. XII, pp. 388, 389.
 Nurse, Visiting. Vol. XII, p. 393.
 Nurse Work, Economic Value of Visiting. Vol. XII, p. 21.
 Nursery for the Baby. Vol. XI, p. 199.
 Nursing Mother. Vol. XI, p. 212.
 Nursing, Rules for. Vol. XI, p. 213.
 Nutmeg. Vol. XI, p. 326; vol. XII, p. 10.
 Nuts. Vol. XII, p. 7.
 Nux Vomica. Vol. XII, pp. 10, 11.
 Nux Vomica, Powdered. Vol. XI, pp. 167, 178.
 Occupational Diseases. Vol. XII, p. 315.
 Occupations and Typhoid. Vol. XII, p. 304.
 Occupations, Tuberculosis Mortality by. Vol. XII, p. 298.
 Oil, Aromatic Castor. Vol. XI, pp. 9, 18, 38.
 Oil, Bear's. Vol. X, p. 245.
 Oil, Boiled Linseed. Vol. X, pp. 206, 250, 270; vol. XI, pp. 9, 20, 167, 177.
 Oil, Camphorated. Vol. XI, p. 167; vol. XII, n. 24.
 Oil, Castor. Vol. XI, pp. 9, 18, 38, 53, 167, 173.
 Oil, Cod Liver. Vol. XI, pp. 9, 16, 53, 178.

- Oil, Cottonseed. Vol. X, p. 245.
Oil Gaultheria. Vol. X, p. 206.
Oil, Imitation Bear's. Vol. X, p. 252.
Oil of Lemon. Vol. XI, pp. 167, 178.
Oil, Linseed. Vol. XII, p. 54.
Oil, Raw Linseed. Vol. X, p. 206; vol. XI, pp. 9, 20, 167, 178; vol. XII, pp. 7, 13.
Oil, Olive. Vol. X, p. 276; vol. XI, pp. 166, 249; vol. XII, pp. 54, 68.
Oil, Salad. Vol. XI, pp. 9, 38, 42, 249.
Oil of Sandalwood. Vol. XI, pp. 38, 178, 326.
Oil, Santalwood. Vol. XII, p. 9.
Oil, Sweet. Vol. X, pp. 256, 276; vol. XI, pp. 166, 249.
Oil, To-Ho-Ya. Vol. XII, pp. 7, 8.
Oil of Wintergreen. Vol. X, p. 206; vol. XI, pp. 18, 245.
Oil of Wintergreen Leaves. Vol. X, pp. 251, 256; vol. XII, p. 9.
Oil of Wintergreen, True. Vol. X, p. 256.
Oil, XIX Penetrating. Vol. XII, p. 7.
Olive Oil. Vol. X, p. 276; vol. XI, pp. 166, 249; vol. XII, pp. 54, 68.
Oliphane, Liquid Petrolatum. Vol. XI, pp. 9, 16.
Onions, Sour. Vol. XII, p. 70.
Opium, Tr. of. Vol. XI, pp. 38, 178.
Optona. Vol. XI, pp. 9, 16.
Orange. Vol. X, p. 278; vol. XI, pp. 7, 326.
Orangeade. Vol. X, pp. 206, 270, 273; vol. XI, pp. 9, 40, 166, 246.
Orangeade Mixture. Vol. XI, p. 245.
Organizing Little Mothers' Leagues. Vol. XII, p. 405.
Organizing Mothers' Study Courses. Vol. XII, p. 405.
Orange Color. Vol. XI, p. 42.
Orange Extract. Vol. X, p. 270.
Ordinance, Enactment of First Hay Fever. Vol. XII, p. 78.
Organic Heart Disease. Vol. XII, p. 125.
Orris, Powdered. Vol. XII, p. 10.
Othine. Vol. X, p. 210.
Outline for Lessons in Prenatal Hygiene, Child Hygiene, and Child Welfare. Vol. XII, pp. 411, 412.
Oysters, Fresh. Vol. XI, pp. 9, 38, 58; vol. XII, p. 71.
Oysters and Typhoid Fever. Vol. X, p. 219.
Pamphlets on Care of Baby. Vol. XII, p. 384.
Pamphlets on Child Hygiene. Vol. XII, p. 408.
Pancake Flour. Vol. X, p. 270; vol. XI, pp. 9, 166, 168; vol. XII, pp. 7, 54.
Pape's Cold Compound. Vol. XI, p. 16.
Paprika. Vol. XII, p. 15.
Parnotis. Vol. X, p. 212.
Pasteurization of Milk. Vol. XI, p. 96.
Peach Butter. Vol. X, p. 270; vol. XI, pp. 9, 41, 62, 166, 248.
Peaches, Canned. Vol. X, p. 276; vol. XI, pp. 166, 247; vol. XII, p. 87.
Peaches, Dried. Vol. X, p. 270; vol. XI, pp. 40, 247.
Peaches, Evaporated. Vol. XI, pp. 166, 245, 247.
Peanut Butter. Vol. XI, p. 61.
Peanuts, Raw. Vol. XI, p. 326.
Peanuts, Salted. Vol. XI, p. 326.
Pears, Canned. Vol. X, p. 276.
Pears, Evaporated. Vol. XI, pp. 38, 247.
Peas, Canned. Vol. XI, p. 166.
Pecans. Vol. XI, pp. 166, 249.
Pellagra. Vol. XII, pp. 120, 310, 347, 348, 349.
Penetrating Oil XIX. Vol. XII, p. 7.
Pep-O-Mint, Confection. Vol. XI, pp. 53, 179.
Pepper. Vol. XI, p. 178.
Pepper, Black. Vol. XI, p. 326; vol. XII, p. 10.
Pepper, Cayenne. Vol. XI, pp. 166, 179.
Pepper, Red. Vol. XI, p. 326; vol. XII, pp. 9, 13.
Pepper, Cayenne. Vol. XII, p. 13.
Peppers, Capsicum. Vol. XI, p. 326.
Peppermint, Essence of. Vol. X, pp. 251, 256, 270, 275; vol. XI, pp. 15, 167, 175; vol. XII, p. 24.
Peppermint, Imitation. Vol. X, p. 252.
Pepsin, Elixir of. Vol. X, p. 251.
Pepsin Gum. Vol. X, pp. 206, 244, 250, 270; vol. XI, p. 14.
Pepsin, Essence of. Vol. X, pp. 206, 244, 250, 256; vol. XI, pp. 9, 17, 167, 173.
Pepsodent. Vol. XI, p. 298.
Pepsodent Proteolytic Tooth Paste. Vol. XII, p. 11.
Pep-to-Lac. Vol. XII, p. 54.
Peptone, Elixir. Vol. XII, p. 24.
Perhaps (poem). Vol. XII, p. 95.
Peroxide, Hydrogen. Vol. X, p. 270; vol. XI, pp. 38, 167, 177.
Personnel of State Board of Health. Vol. X, p. 298.
Petrolatum, Liquid. Vol. XI, pp. 9, 16, 326; vol. XII, p. 14.
Petrolene. Vol. XI, p. 326; vol. XII, p. 14.

- Phenacetine. Vol. XI, p. 326; vol. XII, p. 11.
 Phenol, Liquefied. Vol. XII, p. 12.
 Phenol, Liquid. Vol. X, p. 270; vol. XI, pp. 15, 167, 173, 245.
 Philosophy (poem). Vol. XI, p. 302.
 Phosphate Baking Powder. Vol. X, p. 273.
 Phosphate Cider, Blackberry. Vol. X, p. 273.
 Physical Supervision of School Children. Vol. XI, p. 226.
 Pickles. Vol. XI, pp. 9, 41, 53, 166, 245, 248, 298, 326; vol. XII, pp. 24, 68.
 Pickles, Alum in. Vol. X, p. 272.
 Pickles, Condiments, etc. Vol. XI, p. 59.
 Pickles, Dill. Vol. XI, p. 248.
 Pickles, Sour. Vol. XI, pp. 42, 248.
 Pickles, Spiced. Vol. X, p. 276; vol. XI, p. 248.
 Pineapple, extract of. Vol. XI, p. 298.
 Pineapple Flavor. Vol. X, p. 256.
 Pineapple Syrup Compound. Vol. XII, p. 61.
 Pinella. Vol. XI, p. 249.
 Plain Noodles. Vol. XII, p. 44.
 Plain Yellow Menyol. Vol. X, p. 212.
 Plum Preserves. Vol. XI, pp. 9, 41.
 Pneumonia. Vol. X, p. 302.
 Pneumonia and Broncho-pneumonia. Vol. XII, p. 126.
 Poems. Vol. X, pp. 225, 229, 230, 232, 261, 295, 296; vol. XI, pp. 32, 43, 47, 76, 128, 302, 303, 304, 310, 319, 320, 334, 336; vol. XII, pp. 16, 29, 31, 32, 47, 48, 89, 95, 96.
 Point of View (poem). Vol. X, p. 225.
 Poisoning, An Antidote for Bichloride. Vol. XI, p. 335.
 Poke Root, Powdered. Vol. XII, p. 10.
 Pollution of Streams by Municipal Sewage. Vol. XI, p. 330.
 Popcorn Confection, Checkers. Vol. XI, p. 42.
 Pop. Vol. X, p. 273.
 Pops. Vol. X, pp. 243, 274; vol. XI, pp. 166, 245, 298, 326; vol. XII, pp. 24, 56.
 Pop Syrups. Vol. X, pp. 243, 273.
 Population. Vol. XII, pp. 132, 134, 288.
 Pork and Beans. Vol. X, p. 270; vol. XI, p. 171.
 Poster. Vol. X, pp. 226, 240; vol. XII, p. 407.
 Postum, Instant. Vol. XI, pp. 53, 179.
 Potatoes, Canned Sweet. Vol. XII, p. 24.
 Potatoes, Sweet. Vol. XI, p. 298.
 Poverty, Sickness Cause of. Vol. XII, p. 91.
 Powder, Baking. Vol. X, pp. 256, 270, 273; vol. XI, pp. 9, 39, 53, 166.
 Powder, Compound Licorice. Vol. X, p. 256; vol. XI, pp. 15, 38, 178.
 Powder, Ice Cream. Vol. XI, p. 171.
 Powder, Jello Ice-cream. Vol. XI, p. 171.
 Powdered Asafœtida. Vol. X, p. 256; vol. XI, p. 15.
 Powdered Belladonna. Vol. XII, p. 10.
 Powdered Belladonna Leaves. Vol. XI, pp. 167, 178.
 Powdered Blistering Flies. Vol. X, p. 270; vol. XI, p. 15.
 Powdered Cantharides. Vol. XI, pp. 167, 178.
 Powdered Capsicum. Vol. XI, pp. 167, 179, 326; vol. XII, p. 12.
 Powdered Cinchona. Vol. XII, p. 11.
 Powdered Columbo. Vol. XII, p. 10.
 Powdered Drugs. Vol. XI, p. 326.
 Powdered Ginger. Vol. XI, p. 19.
 Powdered Gum Asafœtida. Vol. XI, p. 167.
 Powdered Hellebore. Vol. XII, p. 10.
 Powdered Hyosyamus. Vol. XI, pp. 167, 178.
 Powdered Licorice. Vol. XII, p. 9.
 Powdered Mustard. Vol. XI, p. 176; vol. XII, p. 9.
 Powdered Nux Vomica. Vol. XI, pp. 167, 178.
 Powdered Orris. Vol. XII, p. 10.
 Powdered Poke Root. Vol. XII, p. 10.
 Powdered Rhubarb. Vol. XII, p. 9.
 Powdered Senega. Vol. XII, p. 10.
 Powdered Stillingia. Vol. XII, p. 9.
 Powdered Sugar. Vol. X, p. 276; vol. XI, pp. 53, 245, 249; vol. XII, pp. 54, 68.
 Powdered White Pine Bark. Vol. XII, p. 10.
 Powdered Wild Cherry. Vol. XII, p. 10.
 Powders, Chili. Vol. XI, p. 245.
 Prayer (poem). Vol. XI, p. 310.
 Prayer of a Rotarian (poem). Vol. XI, p. 319.
 Prepared Coffee. Vol. X, pp. 206, 245, 253.
 Prepared Mustard. Vol. XII, p. 24.
 Preparedness, The Right Kind. Vol. XII, p. 375.
 Preservaline. Vol. XI, pp. 167, 180.
 Preserves. Vol. XI, pp. 298, 326; vol. XII, p. 66.
 Preserves, Plum. Vol. XI, p. 9.
 Preservo Fumigator. Vol. XI, p. 53.

- Presto. Vol. XII, p. 56.
 Prevalence of Diphtheria. Vol. X, p. 277.
 Prevalence of Disease. Vol. XII, p. 295.
 Price He Paid, The (poem). Vol. XII, p. 89.
 Principles of the Reduction of Infant Mortality. Vol. XII, p. 377.
 Privy, Sanitary. Vol. X, p. 306.
 Probate Judges' Reports of Marriage Licenses Issued. Vol. XII, pp. 280, 282, 285.
 Producers and Consumers of Milk. Vol. XI, p. 115.
 Programs for Baby Week. Vol. XI, p. 231.
 Program, School of Physicians and Health Officers. Vol. XII, p. 26.
 Progress of Civilization. Vol. XII, p. 420.
 Prophylactic Supplies. Vol. XII, p. 299.
 Proprietaries. Vol. XII, pp. 7, 24.
 Prosecutions, Delinquent. Vol. X, p. 208; vol. XI, p. 180.
 Prosecutions, Failure to Report Births. Vol. XII, p. 28.
 Prosecutions under Food and Drug Laws. Vol. XI, p. 298.
 Prosecutions under Vital Statistics Law. Vol. X, p. 193; vol. XII, p. 28.
 Prunes, Evaporated. Vol. XI, pp. 245, 247.
 Public Health Doctors and Nurses. Vol. XII, pp. 388, 389.
 Public Health Education, Kansas School of. Vol. XI, p. 291.
 Public Health Lectures. Vol. X, p. 259.
 Public Health Legislation. Vol. XI, p. 73.
 Public Health Nurse. Vol. XI, p. 226.
 Public Health Surveys. Vol. XI, p. 252.
 Pumpkin. Vol. XII, p. 87.
 Puritan Beer. Vol. X, p. 256.
 Purity Rice. Vol. X, p. 277.
 Pyroligneous Acid, Crude. Vol. X, p. 270; vol. XI, p. 15.
 Pyrophos, Elixir of. Vol. XI, p. 167.
 Pyroxin. Vol. X, p. 211.
 Quacks and Quackery. Vol. X, pp. 196, 209; vol. XI, p. 186.
 Quassia. Vol. XII, p. 10.
 Questions and Answers, Some Health. Vol. XII, p. 30.
 Quinidine. Vol. X, p. 245.
 Quinine, Amorphous. Vol. X, p. 253.
 Quinine and Strychnine, Iron Pyrophosphate. Vol. XI, p. 178.
 Quinine Sulphate. Vol. XI, pp. 167, 178; vol. XII, p. 54.
 Quinola. Vol. X, p. 211.
 Quintone. Vol. X, pp. 211, 212.
 Quinzoin. Vol. X, p. 211.
 Rabies. Vol. XII, pp. 120, 311, 365, 366, 368.
 Rabies, Chart Showing Distribution of. Vol. XII, p. 312.
 Rabies and Dog Days. Vol. XI, p. 188.
 Races, Tuberculosis by. Vol. XII, pp. 297, 332.
 Raisins. Vol. XI, p. 41.
 Rate of Birth. Vol. XII, pp. 102, 111.
 Rate of Deaths. Vol. XII, pp. 101, 108, 111, 132, 134, 226, 228, 230, 232.
 Raspberries. Vol. XII, p. 89.
 Raspberries, Canned. Vol. XI, p. 166.
 Raspberry Extract and Flavor. Vol. XI, p. 166.
 Raw Linseed Oil. Vol. X, p. 206; vol. XI, pp. 9, 20, 167, 178; vol. XII, p. 13.
 Raw Peanuts. Vol. XI, p. 326.
 Recipes, Infant Feeding. Vol. XI, p. 219.
 Recommendations to City Governments Concerning Milk. Vol. XI, p. 118.
 Recommendations to Consumers of Milk. Vol. XI, p. 117.
 Recommendations to Producers of Milk. Vol. XI, p. 116.
 Red Pepper. Vol. XI, p. 326; vol. XII, pp. 9, 13.
 Refinery, Operation of An Experimental Plant for Deodorization of Wastes from Standard Oil. Vol. XI, p. 276.
 Registration of Births. Vol. X, pp. 193, 325; vol. XI, p. 195; vol. XII, p. 383.
 Registration, Effect of. Vol. XII, p. 102.
 Regular and Delinquent Prosecutions. Vol. XI, p. 180.
 Regulations for Junior Health Officers. Vol. XII, p. 398.
 Regulations, New Food Standards and. Vol. XII, p. 44.
 Relish, Celery. Vol. X, p. 277.
 Remedies, Proprietary. Vol. XII, p. 24.
 Report, Division of Child Hygiene. Vol. XII, p. 414.
 Report of Division of Communicable Diseases and Sanitation. Vol. XII, pp. 293.
 Report, Division of Food and Drugs. Vol. X, pp. 204, 241; vol. XI, pp. 8, 36, 52, 164, 244, 296, 324; vol. XII, pp. 4, 24, 54.
 Report, Division of Vital Statistics. Vol. XII, p. 101.
 Report of Vital Statistics Survey of Linn County. Vol. XII, p. 111.
 Report of Marriage Licenses Issued by Probate Judges. Vol. XII, pp. 280, 282, 285.
 Report on Cases Filed With County Attorneys. Vol. X, p. 246.
 Resolutions Presented to Thirteenth Annual Conference of State and Territorial Health Officers with U. S. Public Health Service, Washington, D. C. Vol. XI, p. 159.
 Resources of Sumner County. Vol. XI, p. 135.
 Rheumatism Remedy. Vol. X, p. 226.
 Rhubarb. Vol. XII, p. 10.
 Rhubarb, Powdered. Vol. XII, p. 9.

- Rice. Vol. X, pp. 206, 256, 277; vol. XI, pp. 9, 38, 42, 166, 249, 326; vol. XII, pp. 7, 70.
- Rice, Breakfast Food. Vol. XI, pp. 38, 249.
- Rice, Head. Vol. XII, p. 70.
- Rice, Purity. Vol. X, p. 277.
- Right Kind of Preparedness. Vol. XII, p. 375.
- Roasted Coffee. Vol. XI, p. 20.
- Rocky Mountain Hydro-Mineral. Vol. XI, pp. 38, 179.
- Roman Meal. Vol. XI, p. 9.
- Root Beer. Vol. XI, pp. 245, 298.
- Rules and Regulations Governing Collection of Samples and Analysis of Ice for Domestic Consumption. Vol. XI, p. 294.
- Rural Sanitation. Vol. XI, p. 299.
- Rural Schools, Water Supplies. Vol. XI, p. 250.
- Russianol. Vol. XI, p. 326; vol. XII, p. 14.
- Saccharin in Foods, Use of. Vol. XI, p. 308.
- Saccharin Products. Vol. X, p. 276.
- Safety First. Vol. XII, p. 26.
- Salad Oil. Vol. XI, pp. 9, 38, 42, 249.
- Salicylic Acid Aceto. Vol. X, p. 253.
- Salicylic Acid, Acetyl Tablets, 5 gr. Vol. XI, p. 9.
- Salmon. Vol. XI, p. 58.
- Salted Peanuts. Vol. XI, p. 326.
- Saltpeter. Vol. XI, pp. 53, 167, 176; vol. XII, p. 54.
- Salts, Tasteless, Epsom. Vol. XII, p. 24.
- Sandol Disinfectant. Vol. XI, p. 38, 179.
- Sandalwood, Oil of. Vol. XI, pp. 38, 178, 326.
- Sanitary and Social Survey, Sumner County. Vol. XI, p. 132.
- Sanitary Privy. Vol. X, p. 306.
- Sanitation of Foods and Drugs. Vol. X, pp. 205, 242, 269; vol. XI, pp. 9, 38, 52, 165, 244, 297, 325; vol. XII, pp. 5, 25.
- Sanitation of the Mind. Vol. XII, p. 47.
- Sanitation of Sumner County. Vol. XI, p. 138.
- Sanitation, Rural. Vol. XI, p. 299.
- Santalwood, Oil. Vol. XII, p. 9.
- Saponin or Soap Bark. Vol. XI, p. 46.
- Sardines. Vol. X, pp. 206, 270; vol. XI, pp. 58, 166; vol. XII, pp. 24, 71.
- Sardines, Mustard. Vol. XI, p. 59.
- Sardines in Oil. Vol. X, p. 256; vol. XI, pp. 9, 38, 58, 245, 249.
- Sardines, Smoked. Vol. XI, p. 249.
- Sarsaparilla and Dandelion Compound. Vol. X, p. 270; vol. XI, p. 15.
- Sartoin. Vol. X, p. 210.
- Sassafras. Vol. XII, p. 11.
- Sausage. Vol. XI, pp. 171, 298.
- Sausage Flavor, Ideal. Vol. XI, p. 53.
- Sausage Seasoning. Vol. XI, p. 172.
- Saxolite. Vol. X, p. 210.
- Scales, Weights and Measures Condemned. Vol. X, p. 191; vol. XI, pp. 12, 37, 55, 167, 181, 245, 298, 324; vol. XII, pp. 4, 24, 54.
- Scales, Weights and Measures Inspected. Vol. X, pp. 207, 246, 271; vol. XI, pp. 12, 37, 55, 167, 245, 298, 324; vol. XII, pp. 4, 24, 54.
- Scarlet Fever. Vol. XII, pp. 28, 119, 307, 340, 343.
- Scarlet Fever and Diphtheria. Vol. X, p. 316.
- Scarlet Fever, Effect on Eyes. Vol. XI, p. 253.
- Schedule for Infant Feeding During First Year. Vol. XI, p. 218.
- Schedule for Modifying Milk. Vol. XI, p. 217.
- School Children, Physical Supervision of. Vol. XI, p. 226.
- School Hygiene. Vol. X, p. 318.
- School for Health Officers. Vol. XI, pp. 31, 65.
- School for Physicians and Health Officers, Program. Vol. XII, p. 36.
- Score Card, Inspection of Dairies. Vol. XI, p. 93.
- Score Card, Inspection of Milk. Vol. XI, p. 94.
- Seasonine. Vol. XI, p. 298.
- Secrecy a Crime. Vol. XI, p. 332.
- Senega, Powdered. Vol. XII, p. 10.
- Senna. Vol. XII, pp. 7, 10.
- Senna Leaves. Vol. XII, pp. 14, 24.
- Sennatoria. Vol. XII, p. 7.
- Sephume. Vol. XI, p. 172.
- Sewer Connections, Legislation Concerning. Vol. XI, p. 75.
- Sex, Births by. Vol. XII, pp. 268, 270.
- Sex, Cause of Deaths by. Vol. XII, pp. 234, 238, 242, 246.
- Sex, Deaths by. Vol. XII, pp. 116, 144, 146, 148, 150, 152, 154, 156, 158, 160, 163.
- Sex Hygiene, Teaching in Schools. Vol. X, p. 293.
- Sex Problem, Sane Solution of. Vol. XI, p. 44.
- Sex of Tuberculosis Patients. Vol. XII, p. 297.
- Shrimp. Vol. XI, p. 166.
- Silver Queen, Temperance Beer. Vol. XI, p. 245.
- Silver Top Beer. Vol. X, pp. 243, 256, 274; vol. XI, p. 246.
- Sickness Cause of Poverty. Vol. XII, p. 91.

- Sickness, Dirty Hands and. Vol. XI, p. 267.
 Sick Room Decalogue. Vol. XI, p. 332.
 Singeing the Hair. Vol. XI, p. 328.
 Slaughterhouse Survey. Vol. X, p. 271.
 Sleep, Baby. Vol. XI, p. 202.
 Sleep, Directions for Securing. Vol. XI, p. 77.
 Smallpox. Vol. XII, pp. 118, 307, 339, 344.
 Smallpox and Chickenpox. Vol. X, p. 300.
 Smoked Sardines. Vol. XI, p. 249.
 Smoke Flavor. Vol. XII, p. 7.
 Smoke Substitutes. Vol. XI, p. 177.
 Snow Mellow. Vol. XI, p. 298; vol. XII, p. 70.
 Snow Mellow, Hypolites. Vol. X, p. 277.
 Soap Bark or Saponin. Vol. XI, p. 46.
 Soda Pop, Coke, Vol. X, p. 273.
 Soda Pop, "Foamers" for. Vol. X, p. 206.
 Solution (Grape-rite Acid). Vol. XI, p. 166.
 Sore Eyes Caused by Face Powder. Vol. XI, p. 253.
 Sorghum. Vol. X, p. 276.
 Sorghum and Corn Syrup. Vol. X, p. 276; vol. XII, p. 54, 71.
 Sour Onions. Vol. XII, p. 70.
 Spiced Pickles. Vol. X, p. 276.
 Spices. Vol. XI, p. 326.
 Spirits of Camphor. Vol. X, pp. 206, 245, 256, 270; vol. XI, pp. 9, 16, 167, 175; vol. XI, 326; vol. XII, pp. 9, 24.
 Spirits of Nitre. Vol. X, p. 246; vol. XI, pp. 14, 38.
 Spots Before Eyes. Vol. XI, p. 254.
 Spring Decalogue. Vol. XII, p. 46.
 "Springers." Vol. XII, p. 84.
 Spurmax. Vol. X, p. 210.
 Stage of Disease, Tuberculosis. Vol. XII, p. 297.
 Standard for Ginger. Vol. XI, p. 14.
 Standards for Milk and Milk Products. Vol. XI, p. 119.
 Stanolax. Vol. XI, p. 326; vol. XII, p. 14.
 Star Anise. Vol. XII, p. 11.
 Stereopticon Lectures, List of. Vol. X, p. 260.
 Stillingia, Powdered. Vol. XII, p. 9.
 Strain in Eyes After Measles, Scarlet Fever and Allied Diseases. Vol. XI, p. 253.
 Strawberries. Vol. XII, p. 89.
 Strawberry Extract. Vol. X, p. 275; vol. XI, p. 166.
 Strawberry Flavor. Vol. X, p. 256.
 Strawberry Jam. Vol. XI, pp. 166, 248.
 Strophanthus, Tr. Vol. X, p. 251.
 Study Courses, Organizing Mothers'. Vol. XII, p. 405.
 Success (poem). Vol. X, p. 261.
 Sugar Corn. Vol. X, p. 274.
 Sugar, Maple. Vol. X, p. 276; vol. XI, p. 298; vol. XII, p. 70.
 Sugar, Powdered. Vol. X, p. 276; vol. XI, pp. 53, 245, 249; vol. XII, pp. 54, 68.
 Sugar and Distilled Vinegar. Vol. X, p. 206.
 Suggestions for Legislation, Child Hygiene. Vol. XII, p. 416.
 Sulpho Solution. Vol. X, p. 212.
 Sulpho Tartar Tablets. Vol. X, p. 252.
 Summer Care of Babies. Vol. XI, p. 189.
 Summer School for Physicians and Health Officers, Annual. Vol. XII, p. 26.
 Sumner County, Health Organization. Vol. XI, p. 156.
 Sumner County, Morbidity and Mortality. Vol. XI, p. 153.
 Sumner County, Resources of. Vol. XI, p. 135.
 Sumner County Sanitary and Social Survey. Vol. XI, p. 132.
 Sumner County Water Supply. Vol. XI, p. 145.
 Superior Flavoring. Vol. X, p. 275.
 Supplies, Tuberculosis Prophylactic. Vol. XII, p. 299.
 Supreme Court Decision (unwholesome food). Vol. X, p. 289.
 Survey of Linn County, Report of a Vital Statistics. Vol. XII, p. 111.
 Survey, Slaughterhouse. Vol. X, p. 271.
 Surveys, Public Health. Vol. XI, p. 252.
 Sweet Chocolate, Standards. Vol. XII, pp. 44, 71.
 Sweet Cocoa, Standards. Vol. XII, pp. 44, 71.
 Sweet Oil. Vol. X, pp. 256, 276; vol. XI, pp. 166, 249.
 Sweet Potatoes. Vol. XI, p. 298; vol. XII, p. 7.
 Sweet Potatoes, Canned. Vol. XII, pp. 24, 87.
 Sweet Powders for Children. Vol. XI, p. 15.
 Sweet Spirits of Nitre. Vol. X, pp. 246, 256, 270; vol. XI, pp. 9, 17, 167, 176, 326; vol. XII, pp. 9, 24, 54.
 Swells. Vol. XI, p. 166; vol. XII, pp. 7, 54, 84.
 Sympathy, Tonic Effect. Vol. XI, p. 301.
 Syrup, Acid. Vol. XI, p. 326.
 Syrup, Cough. Vol. XI, p. 326.
 Syrup, Falfa. Vol. XI, pp. 53, 166.
 Syrup, Ginger. Vol. XII, p. 7.
 Syrup, Grapine. Vol. XI, pp. 166, 248.

- Syrup, Maple. Vol. X, p. 276.
 Syrup, Marshmallow Brand. Vol. XII, p. 71.
 Syrups, Flavoring. Vol. XI, p. 298.
 Syrups, Fruit. Vol. XI, p. 245.
 Syrups, Pop. Vol. X, p. 243.
 Tables for Feeding. Vol. XI, p. 220.
 Tables:
 Bacteriological Examinations and Estimated Values by Counties. Vol. XII, p. 370.
 Births by Counties by Sex, Color and Parent Nativity, 1914. Vol. XII, p. 268.
 Births by Counties by Sex, Color and Parent Nativity, 1915. Vol. XII, p. 270.
 Births by Counties by Months, 1914. Vol. XII, p. 272.
 Births by Counties by Months, 1915. Vol. XII, p. 275.
 Number of Births and Deaths of Children Under One Year, and Infant Mortality Rate, 1914 and 1915. Vol. XII, p. 278.
 Birth Rates by Counties. Vol. XII, p. 134.
 Cancer Morbidity. Vol. XII, p. 349.
 Cancer Morbidity, Males without History of Heredity. Vol. XII, p. 350.
 Cancer Morbidity, Females without History of Heredity. Vol. XII, p. 352.
 Cancer Morbidity, Sarcoma without History of Heredity. Vol. XII, p. 354.
 Cancer Morbidity, Metastases in 111 Cases. Vol. XII, p. 356.
 Cancer Morbidity, Metastases from Primary Lesions, Causing Death. Vol. XII, p. 357.
 Cancer Morbidity, by Giving History of Heredity. Vol. XII, p. 358.
 Cancer Line of Possible Transmission Through Heredity and Contact in Eighty-seven Cases. Vol. XII, p. 363.
 Cancer, Possible Effect of Heredity and Contact in Eighty-seven Cases. Vol. XII, p. 364.
 Causes of Death by Age and Sex, 1914. Vol. XII, pp. 234, 236, 238, 240.
 Causes of Death by Age and Sex, 1915. Vol. XII, pp. 242, 244, 246, 248.
 Causes of Death by Color, Nativity and Conjugal Condition, 1914. Vol. XII, pp. 250, 252.
 Causes of Death by Color, Nativity and Conjugal Condition, 1915. Vol. XII, pp. 254, 256.
 Causes of Death by Counties, 1914. Vol. XII, pp. 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194.
 Causes of Death by Counties, 1915. Vol. XII, pp. 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224.
 Causes of Death and Month of Occurrence, 1914. Vol. XII, pp. 258, 260.
 Causes of Death and Month of Occurrence, 1915. Vol. XII, pp. 262, 264.
 Comparison of Birth Rates, 1912-1915, Inclusive. Vol. XII, p. 266.
 Comparison of Death Rates. Vol. XII, p. 136.
 Death Rate per 100,000 Population for Certain Diseases by Counties, 1914, 1915. Vol. XII, pp. 226, 228, 230, 232.
 Death Rates per 1000 by Counties. Vol. XII, p. 132.
 Deaths by Counties by Ages and Sex, 1914. Vol. XII, pp. 144, 146, 148, 150.
 Deaths by Counties by Ages and Sex, 1915. Vol. XII, pp. 152, 154, 156, 158.
 Deaths by Counties by Sex, Color, Conjugal Condition and Nativity, 1914. Vol. XII, p. 160.
 Deaths by Counties by Sex, Color, Conjugal Condition and Nativity, 1915. Vol. XII, p. 163.
 Total Deaths by Counties by Months, 1914. Vol. XII, p. 138.
 Total Deaths by Counties by Months, 1915. Vol. XII, p. 141.
 Diphtheria by Months. Vol. XII, p. 339.
 Diphtheria Morbidity by Groups. Vol. XII, p. 342.
 Five Years of Rabies in Kansas, 1911-1915, Inclusive. Vol. XII, p. 366.
 Laboratory Diagnosis of Rabies, Five Years, 1911-1915, Inclusive. Vol. XII, p. 365.
 Measles by Months. Vol. XII, p. 340.
 Measles Morbidity by Groups. Vol. XII, p. 345.
 Notifiable Disease Reports, 1914. Vol. XII, pp. 320, 322, 324.
 Notifiable Disease Reports, 1915. Vol. XII, pp. 326, 328, 330.
 Pellagra by Groups. Vol. XII, p. 349.
 Pellagra Cases by Location. Vol. XII, p. 348.
 Pellagra Morbidity by Months. Vol. XII, p. 347.
 Population, Marriages and Marriage Rates per 1000, 1914 and 1915. Vol. XII, p. 288.
 Probate Judges' Reports of Marriage Licenses Issued by Months, May to December, Inclusive, 1913. Vol. XII, p. 280.
 Probate Judges' Reports of Marriage Licenses Issued by Months, 1914. Vol. XII, p. 282.
 Probate Judges' Reports of Marriage Licenses Issued by Months, 1915. Vol. XII, p. 285.
 Scarlet fever by months. Vol. XII, p. 340.
 Scarlet Fever Morbidity by Groups. Vol. XII, p. 343.
 Smallpox by Months. Vol. XII, p. 339.
 Smallpox, Morbidity by Groups. Vol. XII, p. 344.
 Tuberculosis Morbidity by Races. Vol. XII, p. 332.
 Tuberculosis Morbidity by Conjugal Condition. Vol. XII, p. 332.
 Tuberculosis Morbidity by Age Groups and Sex. Vol. XII, p. 332.
 Tuberculosis Morbidity by Nativity. Vol. XII, p. 333.

Tables:

- Tuberculosis Morbidity by Birth Place of Foreign Born. Vol. XII, p. 333.
 Tuberculosis Morbidity by Stage of Disease at Time of Reporting. Vol. XII, p. 333.
 Tuberculosis Morbidity by Duration of Lesion, at Time of Reporting. Vol. XII, p. 334.
 Tuberculosis Morbidity by Lesions. Vol. XII, p. 334.
 Tuberculosis Morbidity by Laboratory Diagnosis. Vol. XII, p. 335.
 Tuberculosis Morbidity by Termination of Cases. Vol. XII, p. 335.
 Tuberculosis Morbidity by Patients Removed and Destination. Vol. XII, p. 335.
 Typhoid Death Rate. Vol. XI, pp. 312, 313, 315, 317.
 Typhoid Fever, by Color, Sex and Age Groups. Vol. XII, p. 338.
 Typhoid Fever Morbidity and Fatality Rates by Counties. Vol. XII, p. 336.
 Whooping Cough by Months. Vol. XII, p. 341.
 Whooping Cough, Morbidity by Groups. Vol. XII, p. 346.
- Tablets, Aspirin Compound. Vol. XI, p. 9.
 Tablets, 5-gr. Aspirin. Vol. X, pp. 206, 251; vol. XI, pp. 9, 16, 18, 326; vol. XII, pp. 8, 11.
 Tablets, Codeine. Vol. XI, pp. 167, 178.
 Tablets, Heart Tonic. Vol. XI, p. 38.
 Tablets, Morphine. Vol. X, p. 253.
 Tablets, Morphine Sulfate. Vol. XI, p. 38.
 Tablets, Nitroglycerin. Vol. XI, p. 38.
 Tablets, Nitroglycerin Compound. Vol. X, pp. 206, 244, 250, 251, 252, 256, 270; vol. XI, pp. 14, 15, 167, 174, 245; vol. XII, p. 9.
 Tablets, Sulpo Tartar. Vol. X, p. 252.
 Tanazin. Vol. X, p. 210.
 Tanhauser Beer. Vol. X, p. 256; vol. XI, pp. 39, 246.
 Tanlac. Vol. XII, pp. 6, 7.
 Tartaric Acid. Vol. X, p. 277; vol. XI, pp. 167, 179, 249.
 Tartaric Acid, Addition of Free, Prohibited. Vol. XII, p. 45.
 Tartaric Acid Solution. Vol. XI, pp. 167, 179.
 Tasteless Epsom Salts. Vol. XII, p. 24.
 Tasteless Quinine. Vol. X, pp. 245, 253.
 Teaching of Sex Hygiene in Schools. Vol. X, p. 293.
 Teething. Vol. XI, p. 206.
 Temperance Beers. Vol. X, pp. 243, 256, 274; vol. XI, pp. 166, 179, 245.
 Termination of Tuberculosis Cases. Vol. XII, p. 297.
 Terpeneless Lemon, Extract of. Vol. XII, p. 7.
 That Cold (story). Vol. XII, p. 92.
 The Doctor (poem). Vol. XI, p. 304.
 The Popular Disease (poem). Vol. XII, p. 29.
 The Price He Paid (poem). Vol. XII, p. 89.
 Therox. Vol. X, p. 211.
 Tin and Gas in "Springers" and "Swells." Vol. XII, p. 84.
 Tr. of Arnica. Vol. XI, pp. 167, 178.
 Tr. of Asafœtida. Vol. XI, pp. 53, 178.
 Tr. of Belladonna Leaves. Vol. X, p. 251.
 Tr. of Cardomine. Vol. X, p. 211.
 Tr. of Gentian Compound. Vol. X, p. 270; vol. XI, p. 15.
 Tr. of Ginger. Vol. X, p. 270; vol. XI, pp. 17, 167, 177, 245.
 Tr. of Iodine. Vol. X, p. 270; vol. XI, pp. 9, 16, 38, 167, 175.
 Tr. of Opium. Vol. XI, pp. 38, 178.
 Tr. of Strophanthus. Vol. X, p. 251.
 Tobacco Cleanse. Vol. X, p. 253.
 To-Ho-Yo Oil. Vol. XII, pp. 7, 8.
 Tomato Catsup. Vol. X, p. 277; vol. XI, p. 9; vol. XII, p. 61.
 Tomatoes. Vol. X, p. 276.
 Tomatoes, Canned. Vol. X, p. 276.
 Tonic Cascarilla. Vol. X, pp. 245, 253.
 Tonic Cordial Compound. Vol. XII, p. 54.
 Tonic Effect of Sympathy With Others. Vol. XI, p. 301.
 Tonka and Vanilla Compound. Vol. X, pp. 206, 275.
 Tooth Paste, Pepsodent Proteolytic. Vol. XII, p. 11.
 Tribute, A Father's. Vol. XII, p. 34.
 Tuberculosis. Vol. XII, pp. 120, 121, 296.
 Tuberculosis Chart. Vol. XII, pp. 121, 296.
 Tuberculosis Morbidity, Tables. Vol. XII, pp. 332, 333, 334, 335.
 Tuberculosis, Secrecy a Crime. Vol. XI, p. 382.
 Tuna Fish. Vol. XII, pp. 7, 71.
 Turpentine. Vol. X, p. 270; Vol. XI, pp. 9, 17, 53, 167, 175.
 Two Kinds of Grocers (poem). Vol. X, p. 229.
 Typhoid Fever. Vol. X, pp. 213, 219, 284, 314; vol. XII, pp. 117, 300.
 Typhoid Fever, Compensation for. Vol. XII, p. 20.
 Typhoid Fever, Factor of Age in the Incidence of Deaths. Vol. XI, p. 311; vol. XII, p. 117.
 Typhoid Fever, Morbidity Tables. Vol. XII, pp. 336-338.
 Typhoid Morbidity by Ages, Sex and Color. Vol. XII, pp. 300, 301.
 Typhoid Morbidity by Location. Vol. XII, p. 303.
 Typhoid Morbidity by Months. Vol. XII, pp. 300, 302.
 Typhoid Vaccine, Value of. Vol. XI, p. 28.
 Undefectives, The (poem). Vol. XI, p. 320.

- Unwrapped Bread. Vol. X, p. 291.
Vaccine for Blackleg. Vol. XI, pp. 167, 179.
Vaccines, Free Distribution of Antitoxin to Indigent Poor of the State. Vol. XI, p. 269.
Vacuum Packed Coffee. Vol. XII, p. 11.
Valerian. Vol. XII, p. 10.
Value of Typhoid Vaccine. Vol. XI, p. 23.
Value of Visiting Nurse Work, Economical. Vol. XII, p. 21.
Vanilla and Tonka Beans. Vol. XI, p. 166.
Vanilla and Tonka Compound. Vol. X, pp. 206, 275; vol. XI, pp. 248, 326; vol. XII, p. 7.
Vanilla Beans. Vol. XII, p. 71.
Vanilla, Coumarin and Vanillin Compound, Extract of. Vol. X, p. 270; vol. XI, pp. 38, 41, 166, 248.
Vanilla Extract. Vol. X, pp. 206, 243, 256, 275; vol. XI, pp. 41, 166, 248, 298, 326; vol. XII, p. 24.
Van's Mexican Hair Restorer. Vol. X, p. 211.
Vegetable Products. Vol. XI, p. 6.
Vegetables, Canned. Vol. XI, pp. 166, 171, 245; vol. XII, p. 69.
Vegetables, Recipes for. Vol. XI, p. 222.
Vegetables and Fruits. Vol. XI, p. 6.
Venereal Diseases. Vol. XII, p. 315.
Vinegar. Vol. XI, pp. 9, 42, 166, 245, 249, 326; vol. XII, p. 7.
Vinegar, Cider. Vol. X, pp. 206, 276; vol. XI, pp. 59, 249, 298; vol. XII, p. 69.
Vinegar, Sugar and Distilled. Vol. X, pp. 206, 276.
Visiting Nurse. Vol. XII, p. 393.
Visiting Nurse Work, Economical Value of. Vol. XII, p. 21.
Vital Statistics Law, Prosecutions Under. Vol. X, p. 193.
Vital Statistics Report. Vol. XII, p. 101.
Vital Statistics Survey of Linn County, Report. Vol. XII, p. 111.
Vitazone. Vol. XII, p. 54.
Wahoo Bitters. Vol. XI, p. 179.
Wahoo Compound. Vol. XII, p. 7.
Wampole's Perfected and Tasteless Preparation of Extract of Cod Liver Oil. Vol. XI, p. 179.
Ward's Magic Egg Saver. Vol. XII, p. 71.
Ward's Russian Mineral Glycerin. Vol. XI, p. 326.
Wastes, Operation of an Experimental Plant for Deodorization of. Vol. XI, p. 276.
Waterbury's Compound, Plain. Vol. XI, p. 179.
Water Company, Legal Liability of. Vol. XI, p. 270.
Water, Electrically Treated. Vol. XI, p. 327.
Water Supply of Sumner County. Vol. XI, p. 145.
Water Supplies, Rural Schools. Vol. XI, p. 250.
Water and Wells. Vol. X, p. 308.
Water Noodles. Vol. XII, p. 44.
Waters, Barley, Oatmeal and Egg. Vol. XI, p. 219.
Waters, Chemistry and Geology of, in Sumner County. Vol. XI, p. 134.
Wax, Bees. Vol. XI, p. 326.
Wax, White. Vol. XI, pp. 38, 167, 174.
Wax, Yellow. Vol. XI, p. 245; vol. XII, p. 12.
Weights Condemned. Vol. X, p. 191; vol. XI, pp. 12, 37, 55, 167, 181, 245.
Weights Inspected. Vol. X, pp. 207, 246, 271; vol. XI, pp. 37, 55, 167, 245, 298.
Wells and Water. Vol. X, p. 308.
What is a Child Worth? (poem). Vol. XI, p. 32.
What to Notice in the Baby. Vol. XI, p. 198.
Wheat. Vol. XI, pp. 298, 326; vol. XII, p. 70.
Wheat Flour. Vol. X, p. 256; vol. XI, p. 168.
Whisky. Vol. XI, p. 326.
White Glaze. Vol. XII, p. 70.
White Pine Bark, Powdered. Vol. XII, p. 10.
Whooping Cough. Vol. XII, pp. 119, 309, 341, 346.
Whooping Cough and Measles. Vol. X, p. 304.
Whooping Cough and Measles, Annual Toll From. Vol. X, p. 285.
Whooping Cough and Measles Chart. Vol. X, p. 286.
Wild Cherry, Powdered. Vol. XII, p. 10.
Winter, Care of Body in. Vol. X, p. 294.
Wintergreen Leaves Oil. Vol. X, pp. 251, 256.
Wintergreen Oil. Vol. X, p. 206; vol. XI, pp. 18, 245; vol. XII, p. 9.
Witch Hazel, Extract of. Vol. XI, pp. 167, 178.
Work is Health. Vol. XII, p. 90.
Work, My (poem). Vol. XII, p. 96.
Wormseed. Vol. XII, p. 11.
Wrapped Bread. Vol. XI, p. 125; vol. XII, p. 46.
Wright's Smoke Flavor. Vol. XII, p. 7.
Wrinkle Lotion. Vol. X, p. 210.
Yeast. Vol. X, p. 270; vol. XI, p. 42.
Yellow Wax. Vol. XII, p. 12.
Zanilla. Vol. X, p. 275.
Zintone. Vol. X, p. 210.



